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## SIBERIA

An Intimate Outline of Remarkable Opportunities for Commercial and Industrial Development

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## Dr. Sun Yat-sen Urges the International Development of China

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10

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# The International Development of China

## A Project Designed to Assist the Readjustment of Post-Bellum Industries

### *By Dr. Sun Yat-sen, ex-President of the Republic of China*

It is estimated that during the last year of the world war the daily expenses of the various fighting nations amounted to two hundred and forty millions of dollars gold. Take it for granted in a most conservative way that only half of this sum was spent on munitions and other direct war supplies, which amounted to one hundred and twenty millions of dollars gold. Let us consider these war supplies from a commercial point of view. The battlefield is the market for these new industries, the consumers of which are the soldiers. Various industries had to be enlisted and many new ones created for the supplies. People of the warring countries, and even those of the neutral States, had to be contented with the barest necessities of life and had to give up all former luxuries and comforts in order to increase the productive power of these war commodities day by day.

DR. SUN YAT-SEN

Now the war is ended and the sole market of these war supplies has closed forever for the good of humanity. So, henceforth, we are concerned with the problem as to how a readjustment might be brought about. What is to be considered first is the reconstruction of the various countries, and next the supply of comforts and luxuries that will have to be resumed. Therefore, let us suppose that these two items will take up one-half of this sum, that is sixty millions of dollars a day from this war market, which will leave us still a balance of sixty million dollars a day to be accounted for. Besides, the many millions of soldiers who were once consumers will from now on become producers again. Thus the result will be over production. Furthermore, the unification and nationalization of all the industries, which I might call the Second Industrial Revolution, will be more far-reaching than that of the first one in which manual labor was displaced by machinery. This second industrial revolution will increase the productive power of man many times more than the first one Consequently, this unification or socialization of industries by the world war will further complicate the readjustment of the post-war industries. Just imagine sixty million dollars a day or twenty-one billions and nine hundred millions of dollars a year of new trade created by the war suddenly having to stop when peace is concluded! Where in this world can Europe and America look for a market to consume this enormous saving from the war?

If this twenty-one billions and nine hundred millions of dollars of annual trade finds no place in the post-bellum readjustment, then it has to cease and the capitals invested in its production will have to go to the scrap heap. The result of it will not only disturb the economic condition of the producing countries, but will also be a great loss to the world at large.

All the commercial nations are looking for the future market of China as the only dumping ground for their overproduction. The pre-war condition of trade is greatly unfavorable to China The balance of imports over exports is something over one hundred million dollars gold annually. The market of China under this condition could not expand much for soon after there will be no more money or commodities left for exchanging goods with foreign countries. Fortunately, the natural resources of China are great and if properly developed, would create an unlimited market for the whole world, and could consume the greater part. if not all of this surplus war production of twenty-one billions and nine hundred millions of dollars gold a year.

China is the land that still employs manual labor for production and has not yet entered the first stage of industrial

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evolution, while in Europe and America the second stage is already reached. So China has to begin the two stages of industrial evolution at once by adopting the machinery as well as the nationalization of production. In this case China will require machinery for her vast agriculture, machinery for her rich mines, machinery for the building of her innumerable factories, machinery for her extensive transportation systems and machinery for all her public utilities. A market for machinery is what the war surplus trade needs. The workshops that turn out cannon can easily be made to turn out steam rollers for the construction of roads in China and the workshops that turn out tanks can be made to turn out trucks for the transportation of the raw materials that are lying everywhere in China unknown to the outside world. And all sorts of warring machinery can be converted into peaceful tools for the general development of China's latent wealth. The Chinese people will welcome the development of our country's resources provided that it can be kept free from mandarin corruption and ensure the mutual benefit of China as well as that of the countries co-operating with us.

It may be feared by the short-sighted people of Europe and America that the development of China by war machinery, war organization and technical experts might cause more competition of foreign industries. I, therefore, propose a scheme to develop a new market in China for her own production from machinery as well as production from foreign countries on the following lines:—

- I.—The development of a communication system.
  - (a) 100,000 miles of railways.
  - (b) 1,000,000 miles of macadam roads.
  - (c) The improvement of existing canals.
    - (1) Hangchow-Tientsin Canals.
    - (2) Sikiang-Yangtze Canals.
  - (b) Construction of new canals.
    - (1) Liaoho-Sungkwakiang Canal.
    - (2) Others to be projected.
  - (e) River Conservancy.
    - (1) To regulate the embankments and channel of the Yangtze River from Hankow to the sea thus facilitating ocean-going ships reaching that port at all seasons.
    - (2) To regulate the Hoangho (Yellow River) embankments and channel to prevent floods.
    - (3) To regulate the Sikiang (West River).
    - (4) To regulate the Hwaiho.
    - (5) To regulate various other rivers.
- II.—The development of commercial harbors.
  - (a) Three large ocean ports with a future capacity equalling New York harbor to be constructed in North, Central and South China.
  - (b) Various small commercial and fishing harbors to be constructed along the coast.
  - (e) Commercial docks to be constructed along all navigable rivers.
  - (f) The construction of more telegraph lines and telephone and wireless systems all over the country.
- III.—Modern cities with public utilities to be constructed in all railway centres, termini, and alongside harbors.
- IV.—Water power development.
- V.—Iron and steel works and cement works on the largest scale in order to supply the above needs.
- VI.—Mineral development.
- VII.—Agricultural development.
- VIII.—Irrigational work on the largest scale in Mongolia and Sinkiang.
- IX.—Reforestation in Central and North China.
- X.—Colonization in Manchuria, Mongolia, Sinkiang, Kokonor and Thibet.

If the above program could be carried out gradually, China will not only be the "dumping ground" for foreign goods but actually will be the "economic ocean" capable of absorbing all the surplus capital as quickly as the industrial nations can possibly produce by the coming industrial revolution of nationalizing productive machinery. Then there will be no more competition and commercial struggles in China as well as in the world.

The recent world war has proved to mankind that war is ruinous to both the conquerer and the conquered, and worse for the aggressor. What is true in military warfare is more so in trade warfare. Since President Wilson has proposed a League of Nations to end military war in the future, I desire to propose to end the trade war by co-operation and mutual help in the development of China, thus to root out probably the greatest cause of future wars.

Since the development of America as an industrial and a commercial nation, the world has been greatly benefitted by it. So a developed China with her four hundred millions of population will be another new world in the economic sense. The nations which take part in this development will reap immense advantages. Furthermore, international co-operation of this kind cannot but help to cement the brotherhood of man. Ultimately, that this will culminate to be the keystone of the arch of the League of Nations, I am sure.

In order to carry out this project successfully I suggest that three necessary steps must be taken: First, that the various governments of the capitalistic Powers must agree to joint action and unified policy to form an international organization with their war work organizers, administrators and experts of various lines to systematize plans and to standardize materials in order to prevent waste and to facilitate work. Second, the confidence of the Chinese people must be secured in order to gain their co-operation and enthusiastic support. If the above two steps are accomplished, then the third step is to open formal negotiation for the final contract of the project with the Chinese Government. For which I suggest that it be on the same basis as the contract I once concluded with Messrs. Pauling & Co., Ltd., of London, for the construction of the Canton-Chungking Railway, since it was the fairest to both parties and the one most welcomed by the Chinese people, of all contracts that were ever made between China and the foreign countries.

And last but not least, a warning must be given that mistakes such as the notorious Sheng Shun-kwai's nationalized railway scheme must not be committed again. In those days foreign bankers entirely disregarded the will of the Chinese people and thought that they could do everything with the Chinese Government alone. But to their regret, they found that the contracts, which they had concluded with the Government, were only to be blocked by the people later on. Had the foreign bankers gone in the right way by first securing the confidence of the Chinese people, and then approached the Government for a contract, many things might have been accomplished without a hitch. Therefore, in this international project we must pay more attention to the people's will than ever before.

If my proposition is acceptable to the capitalistic Powers, I will furnish further details.

(Signed) SUN YAT-SEN.

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The Shanghai Municipal Council has ordered from the General Electric Company of New York an 18,000-kilowatt generator, which will be a duplicate of a machine of the same size which was ordered last year. The bid of the General Electric Company on the second set was G.$441,269. The report from the Electricity Department advised the acceptance of their tender on the ground that no fresh technical data would be required for the manufacturer or for the contractor engaged in setting up the new plant, while there would be certain advantages in having interchangeability of parts between the set ordered last year and the one recently ordered.

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The recent shortage of imported fuel oil in the Philippines has turned the attention of residents to the oil fields which are known to exist in the Agusan valley in Mindanao and elsewhere. Experts believe the Agusan supply to be limitless, and that the flow could be tapped within a thousand feet of the surface. Oil is indicated on nearly all the Visayan Islands and at many points on Luzon. The Bureau of Public Works owns two drilling outfits which with the necessary pipe could easily tap the Philippines fields, and it is very likely that something will be done in that direction.

# China's Industrial and Commercial Outlook

Specially written for the FAR EASTERN REVIEW by Julean Arnold, American Commercial Attaché, Peking

Many Westerners to-day contrast, unfavorably, undeveloped, disorganized China with a well ordered, developed and strongly ruled Japan, and rashly decree that China is fated evermore to remain undeveloped and disorganized unless some strong power from without imposes a dictatorship and orders the railroads built, the mines developed and all the material blessings of modern science and industry bestowed upon it against the protest of a people whose civilization, antedating that of all nations extant to-day, should entitle them to a voice in the matter. These unreasonable, superficial critics of China fail to take cognizance of the fact that the Japan of to-day with its railways, steamships and factories and army and navy, was not the Japan of yesterday.

It is within the lifetime of men of to-day that Japan has risen, from a disorganized feudal state, where the people were essentially agricultural, and industry was of a very primitive sort, where attacks on foreigners were disavowed by rulers who professed inability to control the various warring factions, where Christianity was persecuted, where extra-territoriality was necessary and where anti-foreign outbreaks were frequent. Many Westerners resident then in Japan, some of whom are still living, despaired of Japan's ever being able to become a strong, united, modern industrial society capable of contributing in a substantial way to the trade of the world. There were probably some who forty years ago advocated a foreign dictatorship for Japan in order to hasten its material developments, just as there are some to-day foolishly advocating a foreign dictatorship for China to hasten China's material developments.

Japan deserves credit for what it has accomplished during the past forty years. It is because Japan has been able to do what it has during this period, that we should dispel pessimistic views regarding the future of its larger, wealthier western neighbor. Progress in China, as measured by the ordinary present-day conception of progress, has been slow—so slow in fact that in the eyes of some observers almost anything by way of action from without is justifiable to hasten this movement. These unsympathetic or superficial critics of the Chinese people fail to take cognizance of a number of factors which naturally have prevented rapid developments among the loosely organized, democratic pacifist people of China, among which are:—

(1) The extensive area of the country, its continental nature, its natural barriers which have cut it off from contact with the outside world and its large population.

(2) The perpetuation through a period of many centuries of a system of education which, like the education of medieval Europe, directed the minds of the people to the past and cast the intellect of the nation in a mould. This system in China encouraged the development of individual, as represented by the family unit, rather than group or social activity.

(3) The lack of a military caste or an aristocracy which, when the needs of change became apparent, might have assumed the leadership and hastened developments, as in the case of Japan. In democratic China progress must proceed from the bottom up rather than from the top down—a slower process.

## Some of China's Reforms

To those who continue to criticize China for what they term a lack of ability to do anything for itself, let us point to the phenomenal developments of the past twenty years, developments which show for little on the surface but speak volumes for the future because of their very depth. Among these may be mentioned:—

(1) The abolition of the system of education based upon the classics and the substitution in its place of a system based on Western models. This means that China is executing the order "about face" and looking into the future and away from the past. Let it be said to the credit of those who are instituting this new education that it looks for its model to the remarkable system developed for the people of the Philippine Islands.

(2) The development of a constitutional government has come as a result of China's contact with the West. The events of the past twenty years will be recorded in history as epoch-making in their influence on the extension of constitutional and representative government in the Far East.

(3) The rise and growth of the native press, which is quietly assuming an influential position in forming a public opinion among the Chinese people. Foreigners in China do not all appreciate the force of this army of educators represented by the native press which is in evidence in every city of China and which has had its inception since 1900.

(4) There is no one development in China during the past twenty years which lends more hope for the future or indicates more clearly that the people are sound at heart than the effective work which has been done by the Chinese themselves, to rid their country of the curse of opium. In spite of the lack of a strong centralized government, in spite of its revolutions and rebellions, in spite of the efforts of certain interests to force the drug on the people, China has done a noble work in its opium suppression campaign.

(5) Probably the greatest development in China in its significance for the future is the growth of a national spirit which, as modern educational facilities increase, will go forth with greater strides.

Few foreigners seem to have any substantial appreciation of the quiet but effective development which is going on in the centres of population in China among the ever increasing army of Chinese educated abroad or in modern schools in their own country. Added to these are hundreds and thousands of literati of the old school who during the past two decades have been reading the literature of Western civilization translated into Chinese very extensively and who have become advocates of the new order. These forces are as yet unorganized, but the events of the past few years are welding them together. Within another ten years they will have become a force and power to be reckoned with. They will replace the present day conservative China and another ten years will find the New China, the Young China, effectively in control.

We have, then, in the above five factors making for progress in China, great essentials to the development of a free and strong people. With this foundation, the West need not fear for the future of China, so long as the West adopts an attitude of patient, kindly, helpful sympathy and establishes its relations in such a way that the principles of the "open door" of equal opportunity become an actuality, and they cannot so become until all so-called "spheres of influence" are abolished and all foreign railways in China are internationalized and deprived of all political significance.

We have only to look at the history of the industrial, commercial and economic developments of other nations during the past forty years to appreciate what the world may expect from China during the next few decades. Forty years ago Germany was primarily an agricultural country, and smaller and poorer in resources than China. Japan, forty years ago, was just emerging from a feudal civilization.

## China's Trade Possibilities

In trying to secure some idea of the potentialities of China in commerce and industry, we can probably do no better than to contrast it with the developments in the United States, a continental country, with an area and many physical characteristics quite similar. We must, however, always bear in mind that we have in China a population four times as great as that of the United States of to-day, and that China and the territory contiguous gives us one-half of the population of the earth. We hear much of the foreign trade of Australasia which, in the aggregate, is equivalent to almost as much as that of China, but which on a *per capita* basis equals $160 per annum. China's foreign trade is about $2.50 *per capita*. Relatively speaking, if it were developed to the extent of Australasia's, it would be about Tls. 65,000,000,000 a year, in place of Tls. 1,000,000,000. Japan's *per capita* foreign trade to-day is $18 gold, sevenfold that of China. The *per capita* trade of the U.S. is $85, thirty-four times that of China. China's foreign trade should exceed that of the U.S., for it has a wealth of cheap labor potentially efficient, and the raw materials and natural resources in her own and contiguous territory. During the past thirty years, China's foreign trade has increased tenfold, in spite of unfavorable conditions. It may be expected that during the next thirty years it will increase another tenfold or to what we would to-day consider stupendous proportions. Even then it would only be the present *per capita* equivalent of that of the U.S.

To reach these figures in her foreign trade, it presupposes internal developments almost beyond the stretches of our imaginations—yet developments quite within the range of its potentialities and quite possible of consummation.

## The Great Need of Roads

In the first place, China must develop adequate communication facilities, which mean roads, railways, waterways, telegraphs and posts. Of equal importance with railways are good roads. Thirty years ago, good roads were scarcely known in the U.S. whereas to-day there are probably 200,000 miles. The state of Illinois, which is about equivalent in area to Shantung Province but with only one-fifth its population, has recently arranged for the construction of 4,500 miles of auto roads to cost $60,000,000 gold or $13,000 a mile. Good roads can be constructed for about half this amount in most places in China, and at about one-tenth the cost of railroads.

The farmers of Shensi, on the rich fertile lands of the Wei Basin raise thirty and forty bushels of wheat to the acre and, because of their dependence on cart and pack animal transportation, which cost them from 8 to 18 cents Mex. a ton mile, they are unable to get this wheat to the Hankow or Shanghai markets where it commands three times the price it does in Shensi. Thus the more wheat they raise over and above their own wants, the worse off are they. Roads are necessary feeders to railways. In the U.S. the railways looked with fear on the development of auto-roads, and thought it would cripple their business, but they found that the more roads built the more freight came to the railways.

It is gratifying to note the growth of an interest in China in good roads. Beginnings have already been made. Foochow, Changsha, Tsinanfu, Peking and Shanghai have inaugurated work on good roads. At Foochow, it was found that roads actually pay as a business proposition, as real estate values advance along the road and the license fees on vehicles bring in a large revenue. There are at present in use in the U.S. 5,000,000 motor-cars, over half of which are owned and operated by the farming population, indicative of good roads in the country, which allow the farmers to get their products to the markets economically, and sell them where they command the highest prices. In all of China there are less than 10,000 motor-cars and less than 1,000 miles of good roads.

## Internationalizion of China's Railways

China has an area larger than that of the U.S. and a population four times as great, yet has but 6,500 miles of railways as compared to America's 265,000. Wheat can be transported by rail in the U.S. at seven-tenth of a cent gold a ton mile, while it costs from 8 to 18 cents Mex. a ton mile to transport it by cart or pack in West China. Unfortunately, the attitude of foreign nations toward railway building in China has not been conducive to developments in a larger way. The object of railway construction should be to open the country generally and to look for the returns from these larger developments rather than to treat the railway as a commercial asset in itself. Railway agreements have been so drawn as to present in actual practice obstacles to further railway developments on the part of other interests. It will be necessary, in order to open China's wonderful wealth of potentialities in commerce and trade to the outside world, that foreign railway interests in China be internationalized and that spheres of influence be abolished. China remains the only country of any size and population in the world to-day practically without railways. The comparatively few miles which the country has are veritable gold mines when operated in a reasonably business-like way. Hundreds of thousands of square miles of fertile lands lie undeveloped and unoccupied in China because of lack of railway transportation facilities to render them accessible and open them to colonization and development.

America with its 265,000 miles of railways, with its 200,000 miles of good roads, and with all the equipment which these signify, still finds the country complaining because of lack of adequate transportation facilities and discussing the expenditure of billions of dollars to electrify many of the railways so as to increase their efficiency and cut down the cost of operation. Another subject new to China is the electrical railway and the development of its hydro-electric power possibilities. There are in operation in the U.S. 50,000 miles of electric railways, including city and suburban lines. Of a possible 60,000,000 horsepower of hydro-electric power the U.S. has developed 6,500,000. China's potentialities in electric railways and in hydro-electric power are marvelous but remain to be developed.

## Improvement of Waterways and Harbors Wanted

Waterway transportation in China is in some respects very advanced, for the reason that a large area and population have had to depend on it. We find the Chinese centered about the sections provided with waterways. No country in the world has as large a boating population as has China. No creek or stream is too small or too shallow for water craft. Certain sections of the country are net works of canals which reflect great credit upon China's engineering capacity centuries ago. Internally much can be done by co-ordination, conservancy and extension to improve China's wealth of waterways.

The Pacific ports in the U.S. with a population, west of the Rocky Mountains, of less than 5,000,000 are expending upwards of $100,000,000 on their docks and harbors to provide for anticipated trade expansion. Few are the piers at which ships can come alongside in ports in China to load and discharge cargo. Hundreds of millions will have to be spent on the harbor facilities of China during the next few decades to meet the needs of commercial expansion.

In trans-oceanic trade China has still to put a ship under its own flag. The wealth acquired by Japan during the European War came principally because of its merchant marine. One company alone in Japan now has a fleet of 100 vessels aggregating 600,000 gross tons, whereas thirty years ago Japan had not a vessel in the trans-oceanic trade. The fact that Chinese could operate the China Merchants Steamship Navigation Company against the unfavorable conditions which the company has had to meet during the past thirty years, indicates that when these obstacles are removed, great success will attend their efforts in building a mercantile marine. A Chinese company at Shanghai has contracted to build ten ships of 50,000 tons for the U.S. Shipping Commission, and we may expect it will not be many years before modern shipbuilding will become an important industry in China and serve China's need for a mercantile marine.

The U.S. has learned by the War that it cannot depend for its foreign trade upon foreign ships, and China has had this lesson brought home to her even more forcibly, for during the past few years tens of thousands of tons of cargo have remained at China ports unshipped for lack of tonnage, while rates charged by foreign ships were so high that other tens of thousands of tons could not afford to seek markets abroad.

Communications also include telegraphs, cables, postal facilities and telephones, all of which add to the wealth-producing possibilities of a people. China has 1.3 miles of telegraphs to each 10,000 of its population, as compared to 4.6 miles for Japan and 22.6 miles for U.S.: in other words, China has 11,000 miles of telegraph wires as compared to America's 1,627,000 miles. In telephones China has in the aggregate probably less than 25,000, while New York City alone has 550,000.

## Promotion of Agriculture Improvement

Next in importance to transportation facilities are improvements in agriculture and industry. The foundation of China's prosperity depends upon its agricultural wealth. At present it is estimated that about 70 per cent. of the population is agricultural, as compared with 33 per cent. in America. Nothing indicates more clearly developments in the U.S. in agriculture than does the fact that over 50,000 patents have been granted on agricultural implements and machinery.

During the next few decades farming in China will be revolutionized, if it keeps pace with the industrial and commercial progress of the country. In the first place, the farmer will have to be provided with facilities for getting loans on reasonable terms. The present usurious rates of 25 per cent. and 30 per cent. will have to give way to rates which will help rather than hinder agricultural development. Co-operative buying and selling and co-operative farming should replace the present individualistic, competitive and wasteful system. For instance, in the tea industry either the tea manufacturers and growers will have to buy up large tracts of tea lands and grow the tea or the small growers will have to form co-operative associations.

The possibilities at present for the extension of the sales of China teas in America are unprecedented. The country is going dry and is seeking substitutes for alcoholic beverages. Already the consumption of tea has increased from 100,000,000 to 150,000,000 pounds as a result of this condition, and during the next ten years it is capable of an increase to double this amount or 300,000,000 pounds. Here is the China tea's grandest opportunity, but to meet it tea manufacturers and merchants must have standardized products, must not be at the mercy of numerous middlemen, and must unite for an advertising campaign in the U.S.: otherwise all the advantages in the possibilities of increased consumption in America will go to India, Ceylon, Java and Japan where the tea interests are more enterprising and have more favorable conditions among their producers.

Already some Chinese tea merchants have purchased land and are trying to meet the situation as described above. There are evidences also of the organization among the China tea interests of a tea association to further the trade developments in this product which has such a big future before it. It is to be hoped that the Chinese Government will interest itself in furthering this promising industry.

China gave silk, as well as tea, to the world. Sericulture is the leading industry to the farmers of several of the densely populated provinces of China, and might easily become that of some of the other sections. There are needs, however, of improvements in both the mulberry and the silk worms as now cultivated. China produces the best silk in durability and textile-strength of any in the world, but there is too little of the superior qualities and a great waste in the cultivation of poor mulberry leaves and inferior cocoons where, with the same expenditures in money, labor and time, superior products might be produced. America to-day imports more raw silk than any other country in the world, taking $125,000,000 gold worth each year. Less than 20 per cent. of this comes from China.

If the Chinese silk growers can be taught to grow better cocoons and to reel their silk to suit the American high speeded looms, the silk interests in China will profit by the increase of tens of millions in their business in the U.S. The International Committee for the Improvement of Sericulture in China to which the Chinese Ministry of Agriculture and Commerce contributes Tls. 4,000 a month, is selecting seeds by the pasteur process which are being distributed to Chinese growers. This Committee finds that only 15 per cent. of all eggs examined are fit for hatching, whereas the practice of the Chinese farmers has been to pay no attention to egg selection. The Nanking University is also contributing to the improvements in sericulture in very substantial ways.

Mr. D. E. Douty, representing the American Silk Association, came to China two years ago and addressed large audiences of Chinese silk growers and merchants on the subject of improvements in sericulture and in the production of the raw silk, and awakened a great interest, in fact, concluded as a result of his tour over the country that the Chinese growers and producers will change their methods, when convinced that it pays to do so, but they, like peoples everywhere, must be shown in a way that they can understand.

## Flour Milling Industry

Wheat production in China is stimulated by the development of the modern flour milling industry which already has a daily capacity of about 25,000 barrels. The Nanking University has recently interested itself in this work calculated to assist the wheat growers in selecting better seeds. Here, again, an industry with marvelous potentialities suffers badly for want of co-operative selling, as numerous middlemen gather the products from the tens of thousands of small growers and make it difficult for the mills to secure clean wheat at reasonable prices, but the mills are combining so as to meet this difficulty.

China probably produces about 200,000,000 bushels of wheat annually, the equivalent of one-quarter of that of the U.S. Improved transportation facilities, improved methods of marketing the wheat and improved seed selection are all essential factors to the development of a modern flour milling industry now well established in China. In the U.S. the aggregate daliy capacity of the flour mills is about 400,000 barrels as compared to China's 25,000.

## Soya Bean Trade One of the World's Seven Commercial Wonders

In the soya bean, China has found a product which has great possibilities in its foreign trade. It is probably safe to state that the sudden rise of the soya bean from a position of comparative obscurity to a position of prominence in the world of commerce during a period of little more than a decade, constitutes one of the seven commercial wonders of the world. Beans and bean products now rank third in value in China's exports, amounting in 1917 to Tls. 63,270,000.

Another product which has developed very extensively in recent years as an article of export is the peanut or ground nut. About twenty years ago an American missionary brought a quart of American peanuts to Shantung as seeds to be distributed among the farmers in his disrtict. In course of ten or fifteen years, Shantung Province became the leading peanut producing section in the whole of China and peanuts assumed an important place in China's list of exports, amounting just prior to the war to 70,000 tons for shelled nuts and 50,000 tons for oil.

## New Trade in Eggs

Although a sort of a by-product eggs have risen to a prominent position in China's foreign trade. There are no poultry farms in China. The people throughout the country nearly all keep a few hens, and the eggs are collected in very small lots from the fairs or markets to which they are carried by the people themselves. The improvements in transportation will greatly aid this industry, as may be surmised when it is stated that eggs can be purchased in Shensi Province, where there are no rail or water connections, at three for a cent, whereas they command a cent a piece in the sections along the rail and waterways. China now exports over 300,000,000 preserved and fresh eggs and over 50,000,000 pounds of egg yolk and albumen annually. Improvements in the breeds of hens will aid this industry materially. It has been discovered that hens in some sections of China lay less than 50 eggs a year each, whereas a good laying hen should produce between 150 and 200 eggs. Also the size of the egg can be increased by improving the breeds.

## Animal Husbandry

A big work remains to be done in China in animal husbandry. Chickens, pigs, cattle, horses and mules can be improved by some attention to breeding. The dairying industry remains to be developed in this country. Very few cows, probably less than a few hundred, are kept in China for milk purposes, whereas in the U.S. there are 20,000,000 milch cows. Because of the lack of a dairying industry, China has become a big importer of condensed milk. Chinese flour mills find it difficult to secure a market for their bran on account of the absence of a dairying industry. In the North of China, especially in Mongolia, exceptionally good conditions prevail for the development of the cattle industry and for the extension of the raising of sheep and wool.

China raises many sheep now and produces good mutton and wool, but the quantities may be greatly increased. Woolen mills, tanneries, shoe factories and packing houses will follow the developments in the cattle and sheep industries, as they offer splendid opportunities for capital and labor. Interest is already being manifested in the potentialities of these industries and expert direction will come to their aid in their extension and upbuilding.

China's future in vegetable oils is very bright. Great advances in these products in their market possibilities abroad have been made during the past few years, and during the next few decades the bean, peanut, rapeseed, sesamum seed and cotton seed oils trade of China will assume positions of great importance in the world's trade in vegetable oils. Crushing mills and refineries will grow up in China in large numbers, as evidenced by the developments already being made in this direction.

## The Importance of Cotton

Much interest is being exhibited now in the cotton industry. China produces about 2,500,000 bales (500-lbs. each), annually as compared with America's 12,000,000 bales. The production can be greatly increased by increasing the yield per acre through scientific seed selection and through the care of the plants, pruning the lower non-boll producing branches. Fortunately, the China cotton will not hybridize with other cottons, which makes easy the introduction of the foreign products. The Chinese interested realize that it is to the interests of the industry to restrict the developments in any given section to the one variety of American cotton adapted to that section which may be grown along with the shorter staple Chinese cotton.

The Nanking University is working with the Cotton Anti-adulteration Society and with the Foreign and Chinese Mill-owners Associations in experimental work. The Chinese Government Ministry of Agriculture and Commerce and the Peking-Hankow Railway are also ading in the cotton improvement and extension work. Mr. Chang Chien, former Minister of Agriculture and Commerce, is conducting at Nantungchow, his home, a cotton school where one hundred students are being trained both in cotton growing and cotton manufacture. He has here also a cotton experimental station and modern cotton spinning and weaving mills. Mr. C. C. Nieh and Mr. Y. C. Moh, large cotton mill owners at Shanghai, are co-operating effectively with these agencies in the development of the cotton industry.

In cotton manufacture, China is particularly favored. It offers the most promising field in all the world. Cotton goods constitutes one-quarter of China's entire imports amounting to $150,000,000 annually, over half of which is cotton yarn. With its cheap labor, its ability to grow cotton extensively and its enormous home market for its manufactured products, it surpasses all other countries in its cotton manufacturing outlook.

Cotton mills at Shanghai have been declaring 20 per cent. dividends for a number of years past. The Ewo Mills averaged 26.5 per cent. for the past eight years. One of the Chinese mills has averaged 20 per cent. for the past twelve years. There are now 1,300,000 spindles in China, compared to 3,000,000 in Japan, 33,000,000 in the U.S. and 25,000,000 in England. The ordinary mill capitalized at Tls. 1,500,000 would have 50,000 spindles. China has 5,000 looms compared to Japan's 30,000 and England's 840,000. There is reason to believe that China will within a few decades increase its spindles to 30 or 40 millions and its looms to several hundreds of thousands.

At present the short-sighted policy of the government taxing raw cotton grown in the country, so that Chinese mills have to pay more for it than do the mills in Japan or any other foreign country, naturally hurts the industry in China. It will be also advisable to place foreign raw cotton on the duty free list as is done in Japan, in order further to encourage manufacture in China.

## China's Mineral Wealth

China is favored with a wonderful wealth in coal and in a good supply of iron ore, two essentials to modern industrial development. To indicate how little China has developed its marvelous wealth in coal, the country imported, during 1917, 1,400,000 tons. It is estimated that China produces now 20,000,000 tons annually, but it is supposed to have richer resources in coal than has the U.S. which, in 1918, produced 650,000,000 tons. In iron ore it has been estimated that China has 400,000,000 tons suitable for furnace reaction, and an additional 300,000,000 tons which might be worked by native methods. During 1917, it is estimated that China's production of pig iron was 500,000 tons. The developments in the iron and steel industry in China are making rapid strides and a few years hence it is expected that the production of pig iron and of finished steel will be several millions of tons annually. The U.S. estimates a production of 45,000,000 tons of steel for 1919, 10,000,000 of which is expected to go to France. In antimony and tin China is also particularly rich, and considerable progress has taken place in the mining and smelting of these ores during the past few years. China should jealously safeguard its mineral wealth, so as to preserve it for the country's welfare.

As regards developments in modern business methods and organization in China, the commendable success which the Chinese have made of the modern department stores at Canton, Hongkong and Shanghai, and of such corporate institutions as the Commercial Press, which employs 1,000 people and has its branches and agencies all over China, and the modern Chinese banks, fifteen of which are members of a Bankers' Association, which meets daily at its own building to discuss matters of interest to the member banks, as also the industrial plants already referred to, indicates the ability of the Chinese successfully to conduct corporate enterprise, in spite of unfavorable conditions created by the lack of an effective body of laws and courts to protect their interests, and in spite of the lack of a government to function constructively for the encouragement of agriculture, commerce and industry and in spite of a chaotic currency. With the development of a stable government administered in a way to encourage commerce and industry, which, with a helpful sympathetic attitude on the part of foreign nations, is bound to come, the strides which China will make in economic, industrial and commercial advances will astound the world in their immensity and accord the world greater markets for trade than any yet offered.

China is just emerging from a medieval civilization: its industries, agriculture and commerce are still predominately of the household, primitive and individual sort. Probably there are less than 100,000 persons in modern factories in China to-day, as compared with 8,000,000 in U.S. If China had a proportionate number in modern industrial plants, it would mean 30,000,000 instead of 100,000. In its public schools China has but 4,000,000 as compared to America's 20,000,000 enrolled. China should have 80,000,000 children enrolled in its schools, if it would be giving its children education in the same measure that obtains in the U.S. China's backwardness in modern industry is evidenced by a lack of effective provision for the protection of patents and copyrights. In the U.S. 40,000 patents are issued each year. Since the inception of the American Republic 1,500,000 patents have been issued.

The China of the past gave no encouragement to inventions and scientific research, for the intellect of the nation was cast in a mould by a fixed system of education based on the classics, eventually producing a state of mental stagnation throughout the whole country. The New China is receptive, looks to the future rather than to the past, and the world will witness some marvelous developments among a people possessing the potentialities physically and mentally of the best peoples of the earth, and desirous now of giving expression to these potentialities in a way which will open up to the world a field of teeming possibilities with room for all who would participate in these developments, if they will but respect the principles of the open door of equal opportunity both in letter and spirit.

Thinking Chinese realize the shortcomings of their people and their institutions. They appreciate what the West has done and can do for them in bringing their country into tune with modern civilization. Some are wisely advocating, inviting an international commission to assist them in the solution of the bigger problems concerned with the needed reforms and developments so as to hasten putting the country into order and launching upon the era of industrial and commercial prosperity, which is bound to come with a well ordered China and through the help of foreign capital. Has not the time now arrived when the great financial powers will unite in aiding the development of China on a scale commensurate with its needs and with a vision for the future? If so, then certainly the future of China looms bright on the horizon of the new world in which China may play a part helpful to both itself and its fellow members in the family of nations.

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# Piece Goods Profits Inspire Industrialism in China

## *Chinese Trade in Cotton Manufactures an Enormous One*

At the latter end of January President Hsu Shih-chang issued a Mandate creating a special Bureau under the directorship of Mr. Chou Hsueh-hsi, a former Minister of Finance, largely interested in industrial promotion, and now chief shareholder of a cotton mill at Tientsin, with the object of encouraging the growing of cotton and the manufacture of cotton goods. The Mandate points out that "China has long been known as one of the great exporting countries of cotton, yet she is still relying on imported goods to supply her need for clothes and beddings," and alludes to the great profits which must be made by foreign manufacturers and importers.

MR. CHOU HSUEH-HSI, WHO HAS BEEN APPOINTED DIRECTOR OF THE NEW BUREAU TO ENCOURAGE COTTON GROWING AND MANUFACTURE

This development draws attention to a striking feature of China's trade, cotton manufactures—cloth and yarn—constituting by far the largest single item in the import trade of the country. In normal years the imports of cotton fabrics and yarn into Chinese ports constitute a third of the large inward commerce. Every third dollar spent by the Chinese in the purchase of foreign goods is divided among the weavers of Lancashire and the spinners and weavers of India and Japan. Wherever there is transportation or trade route, the observer is struck by the number of trim bales of piece goods moving from market to market, sometimes slung on either side of mules and horses, piled high on junks, swinging on a bamboo over the shoulders of two trotting coolies, making a burden for the wheelbarrow coolie as he staggers along on the narrow country roads in an effort to keep his unwieldy vehicle in balance, or piled high on the backs of camels in the caravans passing from the Chinese marts across the deserts of the far north.

As a consumer of cotton yarn, which is used largely for the weaving of native fabrics on hand looms of ancient pattern in homes, and lately in shops and small weaving establishments on manual looms made in Japan of wood or copied from Japanese models, China leads all the markets of the world. Her purchases of cotton cloth in the world trade are only second to those of India. On top of this, China ranks third in the production of raw cotton, with India first and the United States in the second place. Her cotton is spun by hand or in the steam power mills under Chinese and foreign management, and with the combination of foreign yarns is woven on small manual looms which are found in every community over all the country. The importance of cotton manufactures in the life of the Chinese can be appreciated when the total imports of a normal year (say 1913, as the first year preceding the Great War, with total purchases of 182 million taels or, at the exchange then current, some £27,600,000) are added to her domestic production. It is assumed that the native production of cotton goods at least equals the imports, and on this basis we arrive at an annual per capita consumption of something like a tael or about one gold dollar. This compares with the Japanese consumption of six yen, or three gold dollars, per capita; and this single instance reveals the possibilities of a trade that only awaits a small amount of social and economic progress to become doubled or tripled. Speculation might be carried to an indefinite length on the trade which had multiplied itself eight times in the 43 years between 1870 and 1913 and which in the twenty years between 1890 and 1910 had increased from 45 to 130 millions, and in the three following years had leaped to 182 millions. In one direction alone, that is by following the ratio of imports to exports, the cotton goods trade might easily double itself in the next few years. The important proviso is that exports continue their rate of increase, and now that War needs have forced a wider introduction of Chinese products it is highly probable that the world will look to China for a greater share of the raw materials which will be sorely needed within the next decade.

In that direction alone may lay an impetus that would greatly increase the demand for foreign cotton manufactures. The exports of the last three years have returned wealth to the country which greatly stimulated the demand for foreign wares of all descriptions, but particularly for cotton goods, and the high price of silver very nearly doubled the purchasing power of the Chinese dollar in the last half of that period. Since then every spinning and weaving mill has been taxed to capacity in the countries where it was possible to find labor and raw cotton. In the Orient cotton mill dividends of 20 and 30 per cent. have become usual, and mill building where machinery could be procured has gone ahead at a furious pace, especially in Japan where the number of spindles has increased many fold. The gold value of foreign piece goods had nearly doubled in 1917 as compared with 1913, but as the purchasing power of Chinese money also very nearly doubled this imposed no hardship on the Chinese consumer. The result was that the value of the trade in point of silver value remained constant and, while no more actual cloth and yarn was purchased, the value of the trade to the spinner and weaver increased largely. Most remarkable is the fact that while the cotton goods trade has remained, roughly speaking, at a level in the past few years of war, China has suffered unsually from internal strife in the same period which cut off some of her important markets and impoverished other consuming centres.

*Photo: W. Crowther*

METHOD OF EXPOSING PILFERERS IN THE COTTON MILLS OF SHANGHAI TO MAKE THEM "LOSE FACE" IN THE SIGHT OF THEIR CO-WORKERS. INDIAN WATCHMAN ON GUARD

While the consumption of printed and colored piece goods is increasing, the mass of the population depend for their clothing on grey and white goods, such as sheetings, shirtings, drills, jeans and T-cloth, which are colored in the native dye-shops. Blue is by far the most popular color, but black, red, grey and chocolate are also used. The demand for blue color, for dying imported and native cloths, has made China the largest market for indigo in the world. In 1913 the net imports of artificial indigo amounted to 42,610,000 pounds, valued at Tls. 9,633,157 (Gold $7,032,205), practically all of which came from Germany. In the early months of 1914 the imports of the same commodity amounted to 250,127 piculs (33,350,000 pounds) valued at Tls. 8,740,257, since when none has reached the country. Printing is done to a very slight extent, and in some sections a pattern in color is made on the grey and white goods by the application of a mixture of lime and water through a stencil made of metal or stiff oilboard, the goods then being dyed and dried in the sun, after which the adherent mixture is shaken off, revealing the patterns of the undyed portion beneath. In the Northern Provinces the use of blue dye by the poor classes seems almost invariable, while in the South a wider variety of taste may be noted, the brown or chocolate color produced by a bulbous root known to the Chinese as "shu liang" being most popular. The Chinese prefer medium-sized goods for dyeing, admiring the gloss which remains after the goods have gone through the vat. Most dealers buy the white or grey goods and have them dyed to order at the native shops, while others buy goods already colored from large dying establishments which buy the uncolored goods, finish them, and keep them in stock.

White and grey goods form about 65 per cent. of the total piece-goods imports, and only moderate progress has been made in attempts to popularize piece goods which have been dyed abroad. White is the color of mourning with the Chinese, so it can be understood that very little of the white and grey goods reach the ultimate consumer in their natural state. In a few of the treaty ports the more progressive Chinese have adopted the use of white garments in the summer months, but otherwise the use of undyed cloth is shunned.

Up to the beginning of the war England held the first place in supplying grey and white piece goods, followed by Japan and the United States. In the 6 years preceding 1913 the trade of the United States in these commodities had fallen by two-thirds, Japan's trade had increased ninefold, and England's trade had remained practically stationary. In 1913, the last normal year before the beginning of the war, Great Britain held 53.3 per cent., Hongkong 10.1 per cent., Japan 20.2 per cent., Russia 3.3 per cent., and the United States 7.9 per cent. of the total trade. In 1913 the value of the total piece goods trade, converted into gold dollars, and its distribution, was as follows:—

| | |
|---|---|
| Hongkong | $ 8,294,813 |
| India | 336,102 |
| Great Britain | 43,502,286 |
| Japan | 16,491,853 |
| United States | 6,520,870 |
| Other countries | 81,514,072 |
| | $81,514,072 |
| Yarn, 358,048,400-lbs. | 53,251,241 |

The grand total of cotton goods imports in 1913 was therefore Gold $134,765,313 (Tls. 184,610,018, or less re-exports Tls. 182,419,023), which compares with total imports that year, of all commodities, of Gold $416,218,667 (Tls. 570,162,557).

The import trade in yarn is mainly confined to coarse counts, not over No. 20. India furnishes 8s., 10s. and some 14s. and 20s. Japan's trade is mainly in 16s. and 20s., the two numbers which have the largest sale in China, but lately the Japanese mills have begun to ship some 32s. and 42s., 2-ply and 3-ply, mostly to Shantung Province, where they are used in the manufacture of pongees. Chinese spinners, of which more will be said later, produce some 10s. and 12s., but the largest production is in 14s., 16s., and 20s., and the mills mix at least 25 per cent. of American staple with native or Indian cotton in spinning the 20s. The natives generally use Indian and Japanese yarn for warp and Chinese yarn for filling in on their hand looms. As the quality of Chinese yarns is being gradually improved, the product of the best mills is now being used for warps.

Cotton thread is another large import which is increasing steadily. The demand is for Nos. 8, 10, 40, 50 and 60 6-cord in 50, 100, 200, 500 and 1,000-yard lengths. England supplies the largest quantity, followed by Belgium and Japan, in normal seasons. The principal Japanese manufacturer is the Teikoku Sheishi Kaisha, of Osaka. The total imports in 1917, consisting of 5,266 piculs in ball form, valued at Tls. 425,286, and 585,604 gross on spools, valued at Tls. 1,817,599, were about normal.

The principal sources of supply for the large volume of cotton manufactures consumed in China are England, Japan, India, the United States, and Russia, with smaller quantities from France, the Netherlands, Canada, Germany and Italy—in pre-war days, but reference to the table of 1917 imports will disclose that the old sources of supplies and trade routes have been thoroughly upset.

Taking 1913 as a typical year prior to the war, we find that Great Britain held 53.3 per cent., Hongkong 10.1 per cent., Japan 20.2 per cent., Russia 3.3 per cent. and the United States 7.9 per cent. of the piece goods trade, while the principal yarn importers were Japan with 44.4 per cent., India with 24.2 per cent., and Hongkong with 25.9 per cent. As Hongkong is a free port and does not publish statistics of imports and exports, it is difficult to ascertain the origin of its exports into China. It is probable that most of the Hongkong yarn imports were from India, with a small proportion from Japan and England. The value of the trade in recent years with its distribution among foreign countries, is given on page 273:

| Countries and articles | 1902 | 1905 | 1907 | 1909 | 1911 | 1912 | 1913 |
|---|---|---|---|---|---|---|---|
| | *Haikwan taels* | *Haikwan taels* | *Haikwan taels* | *Haikwan taels* | *Haikwan taels* | *Haikwan taels* | *Haikwan taels* |
| Belgium : | | | | | | | |
| Yarn and thread ... ... ... ... | ...... | 152,007 | 96,319 | 226,980 | 175,662 | 140,263 | 151,924 |
| Piece goods ... ... ... ... ... | ...... | 166,816 | 218,927 | 35,428 | 148,740 | 174,443 | 285,154 |
| Canada : | | | | | | | |
| Piece goods ... ... ... ... ... | 2,688,382 | 2,262,109 | 163,363 | 935,668 | 105,057 | 357,264 | 690,621 |
| France : | | | | | | | |
| Yarn and thread ... ... ... ... | ...... | ...... | ...... | 11,701 | 1,902 | 1,578 | 51,158 |
| Piece goods ... ... ... ... ... | ...... | 561,146 | 231,020 | 133,025 | 609,634 | 607,463 | 1,571,936 |
| Germany : | | | | | | | |
| Yarn and thread ... ... ... ... | ...... | 59,364 | 70,115 | 66,588 | 56,503 | 22,501 | 69,110 |
| Piece goods ... ... ... ... ... | ...... | 722,462 | 536,331 | 370,316 | 946,546 | 515,668 | 429,851 |
| Great Britain : | | | | | | | |
| Yarn and thread ... ... ... ... | 1,114,641 | 1,177,356 | 1,421,146 | 1,121,852 | 817,879 | 769,433 | 644,603 |
| Piece goods ... ... ... ... ... | 41,456,334 | 58,299,667 | 48,447,258 | 42,997,566 | 58,988,689 | 46,390,003 | 59,592,172 |
| Hongkong : | | | | | | | |
| Yarn and thread ... ... ... ... | 21,694,423 | 24,662,150 | 20,601,310 | 18,702,137 | 14,375,778 | 19.951,247 | 18,909,754 |
| Piece goods ... ... ... ... ... | 6,111,789 | 8,749,226 | 7,876,910 | 10,123,961 | 9,766,524 | 9,492,879 | 11,362,757 |
| India : | | | | | | | |
| Yarn and thread ... ... ... ... | 19,944,444 | 22,801,368 | 20,227,864 | 23,944,382 | 15,208,144 | 17,633,458 | 18,446,558 |
| Piece goods ... ... ... ... ... | 126,587 | 985,080 | 1,433,382 | 378,045 | 276,088 | 296,857 | 460,414 |
| Italy : | | | | | | | |
| Piece goods ... ... ... ... ... | ...... | 4,491 | 236,748 | 172,385 | 299,008 | 72,186 | 125,687 |
| Japan : | | | | | | | |
| Yarn and thread ... ... ... ... | 11,980,307 | 17,956,923 | 14,453,710 | 17,054,581 | 19,441,126 | 23,180,154 | 32,431,586 |
| Piece goods ... ... ... ... ... | 2,056,563 | 3,009,519 | 3,192,736 | 6,552,934 | 13,291,804 | 14,591,847 | 22,591,580 |
| Netherlands : | | | | | | | |
| Yarn and thread ... ... ... ... | ...... | 4,631 | 1,890 | ...... | 4,900 | ...... | 12,211 |
| Piece goods ... ... ... ... ... | ...... | 987,865 | 665,303 | 955,193 | 838,192 | 633,145 | 678,488 |
| Russia : | | | | | | | |
| Yarn and thread ... ... ... ... | ...... | ...... | 1,155 | 50,879 | 24,389 | 24,513 | 56,712 |
| Piece goods ... ... ... ... ... | ...... | ...... | 35,481 | 1,370,775 | 1,358,074 | 1,808,584 | 3,761,442 |
| United States : | | | | | | | |
| Yarn and thread ... ... ... ... | ...... | ...... | ...... | 109 | 3,735 | 4,888 | ...... |
| Piece goods ... ... ... ... ... | 20,111,392 | 42,109,525 | 3,874,781 | 14,242,637 | 9,168,683 | 7,850,411 | 8,932,699 |
| All other countries : | | | | | | | |
| Yarn and thread ... ... ... ... | 685,993 | 1,221,261 | 1,365,353 | 1.552,769 | 1,402,996 | 1,624,825 | 2,173,289 |
| Piece goods ... ... ... ... ... | 2,336,078 | 580,051 | 282,472 | 323,043 | 406,213 | 1,037,736 | 1,180,312 |
| Total : | | | | | | | |
| Yarn and thread ... ... ... ... | 55,419,808 | 68,035,060 | 58,238,862 | 62,731.978 | 51,513,014 | 63,352.860 | 72,946,905 |
| Piece goods ... ... ... ... ... | 74,887,125 | 118,437,957 | 67,194,712 | 78,590,976 | 96,203,252 | 83,828,486 | 111,663,113 |
| Grand total ... ... ... .. | 130,306,933 | 186,473,017 | 125,433,574 | 141,322,954 | 147,716,266 | 147,181,346 | 184,610,018 |
| Less re-exports : | | | | | | | |
| Yarn and thread ... ... ... ... | 592,928 | 638,164 | 724,131 | 267,818 | 441,216 | 689,161 | 410,126 |
| Piece goods ... ... ... ... ... | 2,189,885 | 4,381,900 | 5,793,520 | 3,766,938 | 3,473,025 | 2,403,311 | 1,780,869 |
| Total re-exports ... ... ... ... | 2,782,813 | 5,020,064 | 6,517,651 | 4,034,756 | 3.914,241 | 3,092,412 | 2,190,995 |
| Net Total : | | | | | | | |
| Yarn and thread ... ... ... ... | 54,826,880 | 67,396,896 | 57,514,731 | 62,464,160 | 51,071,798 | 62,663,699 | 72,536,779 |
| Piece goods ... ... ... ... ... | 72,697,240 | 114,056,057 | 61,401,192 | 74,824,038 | 92,730,227 | 81,425,175 | 109,882,244 |
| Net grand total ... ... ... ... | 127,524,20 | 181,452,953 | 118,915,923 | 137,288,198 | 143,802,025 | 144,088,874 | 182,419,023 |
| Value of the Tael in sterling ... ... ... | | | | 2s. 7$\frac{13}{16}$d. | 2s. 8¼d. | 3s. 0⅝d. | 3s. 0¼d. |
| ,, ,, gold currency ... ... | | | | 0.63 | 0.65 | 0.74 | 0.73 |
| Distribution of the trade in piece goods : | | | | | | | |
| Great Britain ... ... ... ... ... | 55.3% | 49.2% | 72.2% | 54.7% | 61.3% | 55.3% | 53.3% |
| Hongkong ... ... ... ... ... | 8.1 | 7.3 | 11.7 | 12.8 | 10.5 | 11.3 | 10.1 |
| Japan ... ... ... ... ... ... | 2.7 | 2.5 | 4.7 | 8.3 | 13.8 | 17.4 | 20.2 |
| Russia ... ... ... ... ... ... | ...... | ...... | ...... | 1.7 | 1.4 | 1.1 | 3.3 |
| United States ... ... ... ... ... | 26.8 | 35.5 | 5.7 | 18.1 | 9.5 | 9.3 | 7.9 |

## Cotton Manufacturing

Cotton manufacturing in China is a comparatively new industry. In 1895 there were but six native mills, with a total of 183,000 spindles, in all China. That year the Treaty of Shimonoseki was signed, which gave to foreigners the right of building factories in the treaty ports, and by the end of 1896 five foreign mills with 158,000 spindles and several new Chinese mills had increased the total to 417,000 spindles and 2,100 looms. In the current year, 1918, there are some 40 important cotton mills using foreign machinery with a total of 1,266,848 spindles and 5,800 looms. In addition about 80,000 spindles are under construction, and orders for at least the same quantity are being held up only for the lack of supplies. At first the Chinese mills confined themselves to the manufacture of yarn, and the installation of looms was not undertaken to any great extent until 1907 and 1908, during the years following the Russo-Japanese war when piece-goods were greatly in demand, when several mills added looms to their equipment and undertook the manufacture of coarse sheetings and drills.

The total consumption of cotton in all the mills when running on full time is estimated at 2,000,000 piculs (266,666,666 pounds) per year, or approximately 533,333 bales of 500 pounds each. The total yarn production, including that used by the mills for weaving, is 200,000,000 to 250,000,000 pounds annually, and the total cloth woven ranges from 40,000,000 to 50,000,000 yards. The principal yarns spun are 10s, 12s, 14s, 16s and 20s. Some 32s are spun from American or Indian cotton, but only in limited quantities. The principal cloths woven are sheetings and drills, although lately some of the mills have been experimenting with canton flannels, jeans, grey shirtings, blankets, towels and canvas.

## Cotton Production

It is impossible to arrive at any accurate estimate of the total production of cotton in China.

Estimates of those in the trade vary from a million to two million and a half bales of 500 pounds. The plots of cotton are absurdly small and scattered widely, and the staple reaches the markets in small units. The ordinary "patch" of cotton plants would not be large enough for a family vegetable garden in foreign countries. The opinion of Mr. H. H. Jobson, Agronomist of the Texas Experiment Station, who has been Cotton Expert to the Chinese Government, was expressed in the following words:

"It is not a possibility but a probability that China will eventually become one of the dominating factors in the world's supply of cotton. The sooner the work of improving and encouraging the industry is intelligently fostered the sooner will China take its place among the nations of the world as a cotton producer. China's first consideration is to feed her population, but it is reasonable to believe, when the area of land in the cotton-growing zone is considered, that China could feed her population and at the same time devote as much land to cotton production as would be necessary to double the crop of the one state of Texas, which runs from 3,000,000 to 5,000,000 bales annually. If statistics were available there is little doubt that China's cotton acreage at the present time would be found to be considerably greater than twice that of Texas. Even with the same acreage China should produce twice as much cotton as is produced under Texas conditions."

Cotton is cultivated in all parts of China, but principally in the provinces of Kiangsu, Chekiang, Hupeh, Shensi, Hunan, Kiangsi, Honan, Chihli and Shantung. The soil along the Yangtze River is most suitable for cotton growing. It is estimated that on the richest land something like 800 pounds of ginned cotton can be produced on an acre, but the actual average is something like 300 pounds.

Imports of cotton fluctuate widely. In 1902 the total import was 33,495,866 pounds; in 1911, after many fluctuations, it had fallen to 5,290,133 pounds. The next year, 1912, imports suddenly leaped to 37,225,600 pounds. Taking 1913 as the last year preceding the European War, we find the cotton imports at 18,382,400 pounds. It will, therefore, be seen that China is an importer of raw cotton, taking those grades which are needed in spinning her own short staple.

The detailed distribution of the 1913 trade, selected for the reason given on page 272, is shown in the following table, with the Tael values converted into gold dollars at the rate of Tael 1 = Gold $0.73:—

| Articles | Hongkong | India | Great Britain | Japan | United States | Other countries | Total |
|---|---|---|---|---|---|---|---|
| YARN AND THREAD | | | | | | | |
| Yarn | $13,488,807 | $13,458,900 | $144,967 | $23,453,757 | ...... | $1,620,707 | $52,167,188 |
| Thread : | | | | | | | |
| Balls | 62,388 | 4,380 | 4,404 | 158,198 | ...... | 25,914 | 255,284 |
| Spools | 252,925 | 2,708 | 319,948 | 62,300 | ...... | 188,894 | 826,775 |
| Wooloa, or berlinette | ...... | ...... | 1,241 | 803 | ...... | ...... | 2,044 |
| Total | 13,804,120 | 13,465,988 | 470.560 | 23,675,058 | ...... | 1,835,515 | 53,251,241 |
| PIECE GOODS | | | | | | | |
| Grey shirtings | $956,681 | $89,312 | $8,430,720 | $213,159 | $118,723 | $549,267 | $10,357,862 |
| Grey sheetings | 40 | ...... | 388,007 | 6,811,780 | 4,176,712 | 455,045 | 11,831,584 |
| White shirtings : | | | | | | | |
| Plain | 2,151,057 | 6,271 | 11,685,460 | 206,099 | 6,882 | 710,223 | 14,765,992 |
| Figured, brocaded, striped, and spotted | 24,803 | 2,841 | 202,877 | 53 | ...... | 19,133 | 249,707 |
| Drills | 148,898 | 22,994 | 133,351 | 4,570,623 | 1,484,310 | 110,336 | 6 470,512 |
| Jeans | 114,657 | 861 | 3,630,537 | 234,752 | 117,368 | 168,144 | 4,266,319 |
| T-cloths : | | | | | | | |
| 32-inch | 347,968 | 53,694 | 1,886,828 | 449,748 | ...... | 110,415 | 2,848,653 |
| 36-inch | 112,813 | 24,232 | 95,194 | 3,048 | ...... | 16,930 | 252,217 |
| Cambrics, lawns, and muslins | 75,641 | 1,991 | 147,361 | 9,901 | ...... | 30,188 | 265,082 |
| Lenos and balzarines | 176,602 | ...... | 35,418 | ...... | ...... | 135 | 211,155 |
| Chintzes and plain cotton prints | 255,413 | 1,071 | 605,710 | 12,006 | 1,095 | 1,186,130 | 2,061,425 |
| Printed drills, furnitures, and twills | 5,874 | ...... | 109,194 | ...... | ...... | 5,514 | 120,582 |
| Printed sateens, reps, etc. | 27,928 | 3,741 | 304,443 | 82 | 386 | 55,552 | 392,132 |
| Printed T-cloths | ...... | ...... | 77,569 | 30 | ...... | 3,367 | 80,966 |
| Turkey-red cottons and dyed T-cloths | 96,565 | 1,615 | 1,379,592 | 374,988 | ...... | 6,674 | 1,859,434 |
| Italians, Venetians, crape, and lastings : | | | | | | | |
| Plain, fast black | 443,357 | 66,050 | 6,205,036 | 9,333 | ...... | 179,435 | 6,903,211 |
| Figured | 289,728 | 10,644 | 2,704,029 | 16,564 | 163 | 288,266 | 3,309,394 |
| Italians, Venetians, and crape, plain colored, and lastings, plain | 538,296 | 13,495 | 2,560,820 | 81,829 | 387 | 261,552 | 3,456,379 |
| Shirtings : | | | | | | | |
| Dyed— | | | | | | | |
| Plain | 78,564 | 2,588 | 204,411 | 25,092 | ...... | 49,617 | 360,272 |
| Figured, brocaded, and spotted | 62,781 | 1,488 | 37,518 | 35 | ...... | 16,609 | 118,431 |
| Hongkong-dyed, plain | 257,881 | ...... | ...... | ...... | ...... | 9,213 | 267,094 |
| Spanish stripes, 6-inch | 26,547 | ...... | 88,781 | ...... | ...... | 26,154 | 141,482 |
| Cotton flannel : | | | | | | | |
| Plain, dyed and printed | 346,157 | ...... | 237,806 | 142,615 | 607,448 | 382,701 | 1,716,727 |
| Striped | 192,943 | ...... | 202,487 | 41,398 | ...... | 54,092 | 490,920 |
| Fancy woven cottons | 215,325 | 211 | 220,705 | 51,785 | ...... | 110,078 | 598,104 |
| Japanese cotton cloth | 66,106 | ...... | ...... | 418,688 | ...... | 185,518 | 670,312 |
| Japanese cotton crape | 8,698 | ...... | ...... | 15,078 | ...... | 530 | 24,306 |
| Velvets, 22-inch | 128,606 | 6,102 | 258,271 | 1,388 | ...... | 208,200 | 1,202,567 |
| Velveteens : | | | | | | | |
| 18-inch and 26-inch | 10,851 | 16,943 | 50,404 | ...... | ...... | 52,874 | 131,072 |
| Embossed and dyed velvet cords | 218 | ...... | 35,615 | 286 | ...... | 23,426 | 59,545 |
| Blankets | 72,072 | 6,877 | 26,590 | 89,422 | 1,044 | 267,706 | 463,711 |
| Handkerchiefs | 46,098 | 27 | 256,872 | 9,414 | ...... | 16,205 | 328,616 |
| Towels : | | | | | | | |
| Honeycomb and huckaback | 105,585 | 1,069 | 32,440 | 116,122 | 4,783 | 4,783 | 259,999 |
| Other kinds | 121,968 | 40 | 4,525 | 310,221 | 20 | 7,580 | 444,354 |
| All other piece goods | 789,092 | 1,945 | 663,715 | 2,276,314 | 6,332 | 796,556 | 4,533,954 |
| Total | 8,294,813 | 336,102 | 43,502,286 | 16,491,853 | 6,520,870 | 6,368,148 | 81,514,072 |
| Total cotton manufactures | 22,098,933 | 13,802,090 | 43,972,846 | 40,166,911 | 6,520,870 | 8,203,663 | 134,765,313 |
| Raw cotton | 157,534 | 1,332,019 | 31 | 265,294 | 444,490 | 82,773 | 2,282,141 |

In 1917 the imports of foreign cotton reached the total of 300,128 piculs. Countries of origin and the quantities they shipped are shown in the following table:—

| | 1916 | 1917 |
|---|---|---|
| Hongkong ... ... ... ... | 42,047 piculs | 18,964 piculs |
| Macao ... ... ... ... ... | 545 ,, | 1,150 ,, |
| French Indo-China ... ... | 1,174 ,, | 1,619 ,, |
| British India ... ... ... | 289,852 ,, | 82,589 ,, |
| France ... ... ... ... ... | 253 ,, | — |
| Russia, overland ... ... ... | 2,074 ,, | 854 ,, |
| Russia, by sea ... ... ... | 319 ,, | 353 ,, |
| Korea ... ... ... ... | 13 ,, | 75 ,, |
| Japan ... ... ... ... | 47,384 ,, | 179,528 ,, |
| United States ... ... ... | 30,797 ,, | 21,329 ,, |
| Total ... ... ... ... | 414,458 ,, | 306,461 ,, |
| Less re-exports ... ... ... | 6,814 ,, | 6,333 ,, |
| Net imports ... ... ... | 407,644 ,, | 300,128 ,, |
| Value in Taels ... ... ... | 8,068,790 ,, | 6,406,224 ,, |

The large imports from Japan represent principally Indian and American cotton bought and sold on speculation.

Exports of cotton show as wide a fluctuation. In 1902 exports were 103,271,467 pounds, in 1904 they had increased to 163,811,733 pounds, and fell sharply thereafter until 1910, when the figure reached 166,307,200 pounds. In 1913 exports were 98,508,267 pounds. Of this Great Britain took 373,467; France 1,341,600; Germany 9,791,333; other European countries 1,308,134; Hongkong (largely for India and Southern countries) 4,983,733; Japan 70,304,267; the United States 8,184,133 and other countries 2,221.600.

That Chinese cotton has grown in popularity abroad is proven by the statistics of exports. In 1915 exports totalled 725,955 piculs valued at Tls. 13,700,496; in 1916 851,037 piculs valued at Tls. 17,091,073; and in 1917 832,463 piculs valued at Tls. 20,035,862. Its distribution in these three years to foreign countries is shown in the following table:—

| | 1915. | | 1916. | | 1917. | |
|---|---|---|---|---|---|---|
| | Quantity. | Tls. | Quantity. | Tls. | Quantity. | Tls. |
| Hongkong ... ... | 5,091 | 96,716 | 6,515 | 129,924 | 7,845 | 190,114 |
| Macao ... ... ... | 14 | 298 | 43 | 807 | 170 | 3,256 |
| French Indo-China .. | 12 | 60 | 11 | 110 | — | — |
| Siam ... ... ... | 4 | 113 | 8 | 181 | 3 | 73 |
| British India ... | 2 | 40 | — | — | — | — |
| Turkey, Persia, Egypt, Aden, etc. ... ... | 300 | 5,703 | — | — | — | — |
| Great Britain ... | 21,095 | 402,293 | 27,203 | 551,903 | 35,175 | 802,740 |
| Sweden ... ... | 467 | 8,878 | — | — | — | — |
| Netherlands ... ... | 845 | 16,063 | — | — | — | — |
| France ... ... ... | 5,305 | 100,848 | 1,958 | 38,690 | 92 | 2,366 |
| Italy ... ... ... | 8,938 | 178,760 | 4,748 | 93,821 | 18,726 | 429,509 |
| Russia, Amur Ports.. | 20 | 452 | 1 | 28 | 54 | 1,166 |
| Russia, Pacific Ports | 18,305 | 344,080 | 24,768 | 486,450 | 4,312 | 95,726 |
| Korea ... ... ... | 4,700 | 69,586 | 1,941 | 43,304 | 1,111 | 22,927 |
| Japan (including Formosa) ... ... | 551,322 | 10,395,383 | 656,977 | 13,235,353 | 616,180 | 15,136,336 |
| Philippine Islands ... | — | — | 8 | 180 | — | — |
| Canada ... ... | — | — | 5 | 113 | 1,188 | 29,372 |
| U.S. of America (including Hawaii) ... | 109,354 | 2,077,782 | 126,658 | 2,506,395 | 147,410 | 3,317,903 |
| Australia, New Zealand, etc. ... ... | 181 | 3,441 | 193 | 3,814 | 197 | 4,374 |
| Total exported Abroad ... | 725,955 | 13,700,496 | 851,037 | 17,091,073 | 832,463 | 20,035,862 |

## Shantung Railway Agreement

In connection with the Obata incident, which has brought about the publication of certain agreements made between China and Japan, the following with regard to the Shantung Railway signed on September 4, 1918, has been published :—

(1) All Japanese troops stationed along the Shantung Railway, with the exception of one company at Tsinan, are to be withdrawn to Tsingtao.

(2) The Chinese Government may establish a Police Force to take over the guarding of the railway.

(3) The Administration of the railway shall set aside a sufficient sum to meet the expenses of the police force.

(4) Japanese subjects shall be employed at police headquarters, all important stations and the police training school.

(5) Chinese subjects are to be included among the employees of the Shantung Railway.

(6) After it is definitely decided to whom the Shantung Railway is to belong, the railway is to be placed under the joint management of China and Japan.

(7) The existing civil administrative offices shall be abolished.

In the preamble Baron Makino, the Minister for Foreign Affairs, addressing the Chinese Minister in Tokio, says :

"In view of the neighbourly feelings and friendship between our countries, Japan, desirous of arranging matters in a spirit of harmony, has drawn up an agreement, which it regards as a satisfactory settlement of all outstanding questions relating to the province of Shantung.

"I now have the honour to bring this proposal to the notice of your Government."

The Chinese Minister to Tokio. in a reply which bears no date, informs the Japanese Government that the Chinese Government accepts with pleasure the proposal contained in the letter quoted.

In an interview with foreign newspaper correspondents Mr. Obata, the Japanese Minister in Peking, admitted that this agreement had never been ratified, and contended that it did not need ratification as it was a purely commercial agreement, having no political character.

China has never ratified this agreement and it appears that the Chinese Minister's reply was given totally without reference to the Chinese Government, says Reuter's Peking Correspondent.

## *The Popular Directory of China

The North-China Desk Hong List (Directory), for 1919, published by the North-China Daily News & Herald, Ltd., has been received and is well up to its usual high-class standard, for usefulness it is probably the most valued book in North China. It contains some 630 pages, which is more than any edition has yet contained. It is a most reliable and up-to-date book of reference in every way. The directory itself is preceded by a lot of useful information, such as English and Chinese calendars, festivals, both Chinese and Foreign, National and Bank holidays, Jewish and Mohammedan calendars, and at the end of the directory proper is a list of diplomatic and consular services in China, postal union rates, fire districts of Shanghai, Harbour regulations, daily time signals, English and Chinese weights and measures, with metrical and English equivalents, and exchange tables (taels and dollars).

The directory is a most complete list of firms in Shanghai, with a "Who's Who," a handy, quick, alphabetical list of foreign male residents in the town and their firms, a street and residential directory of Shanghai containing private addresses of both male and female residents.

The Outport section deals with all the important Treaty ports and health resorts in China and is composed of, besides firms and their employees, a complete "Who's Who," ladies' list, missionary section, arranged according to provinces, and a missionary "Who's Who."

The whole publication is printed and bound in most commendable style, conveniently indexed, and is a credit to the printer and publisher. A few mistakes may be found, but when one considers the compilation of a work of such great magnitude and the difficulty of obtaining the necessary information required, these will be readily excused.

The advertisements throughout the Hong List are remarkably few considering the publicity value of the book, which has probably many times the circulation of any book of its class in China, and when one further considers that at the close of the year, when a new Hong List is published, the old ones are not thrown away as is the case with most publications, but are resold to smaller firms and remain in circulation for many years, this is to be wondered at. One often sees in Chinese stores and hongs, Hong Lists five or more years old still in use.

The Philippine Legislature has appropriated, out of any funds in the Insular Treasury not otherwise appropriated, the sum of Pesos 30,705,824, or such part thereof as may be necessary, for the purpose of extending the facilities of free elemental instruction to all the children of school age of the Archipelago. The expenditure will be extended over a period of years.

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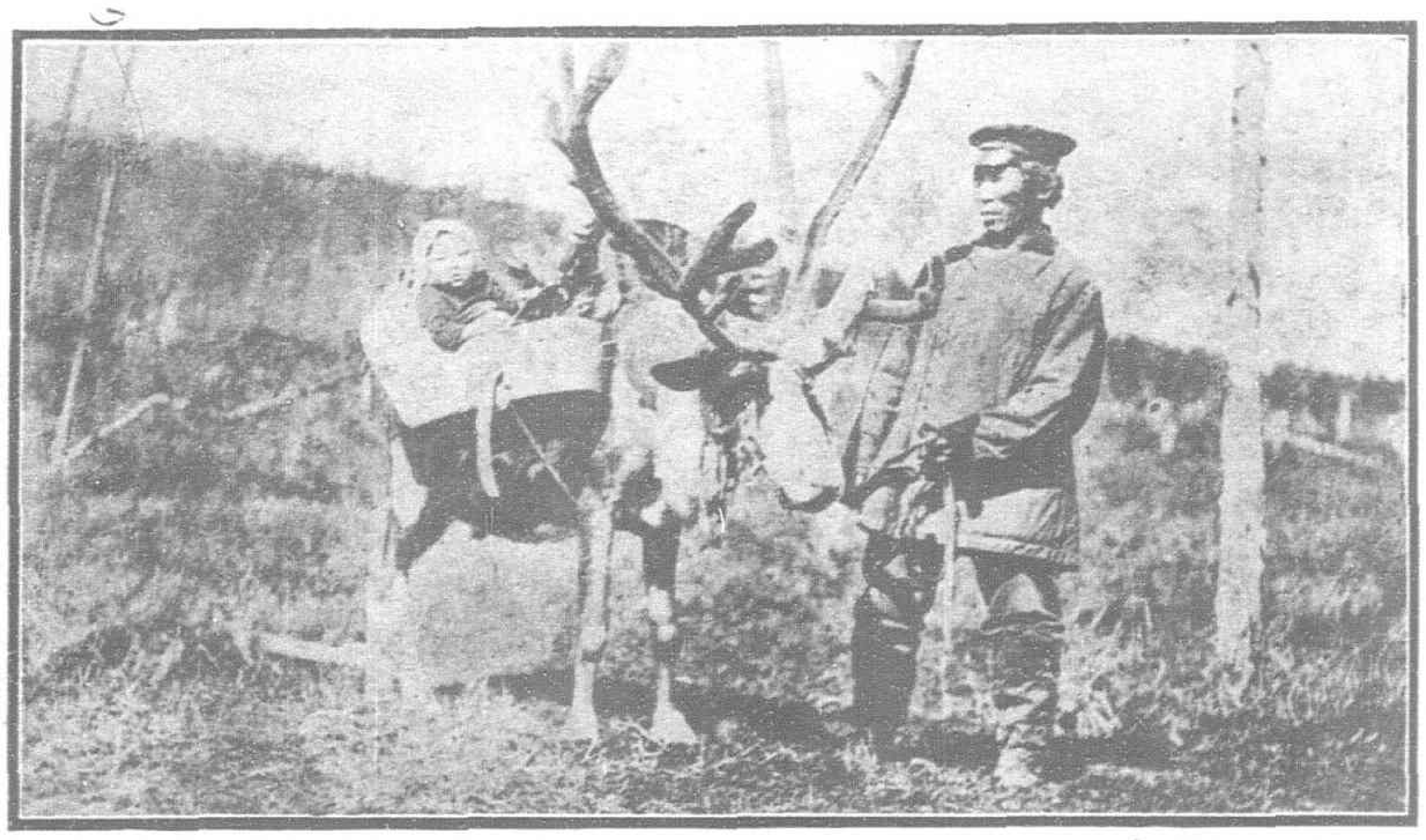
* North China Desk Hong List. 632 pages, Ryl. 8vo., Cloth, gilt, Thumb Index. $4 Mex. North-China Daily News & Herald, Ltd., Shanghai.

# SIBERIA

## A Land Rich in Natural Resources, offering Wonderful Opportunities for the Investment of Capital in Industrial and Commercial Enterprises

### *By Baron W. Bistram*

Having recently arrived in Shanghai from Siberia, which country I entered for my second sojourn at the time the Bolsheviks leaped to power and remained for seven months after the latter had been overthrown by the Czecho-Slovaks, I think it desirable to acquaint the broader public, and especially the Anglo-Saxons who are now taking more interest in Siberia, with the real conditions prevailing there, as I have observed them, during my prolonged stay.



TYPICAL NOMAD IN NORTHERN SIBERIA

The first feeling one has in leaving the country at this juncture is that of profound relief. After six weeks' travelling in luggage and fourth-class passenger cars it seems unbelievable that there exist such things as a comfortable chair, a bed, or a bath. One looks back on one's last experiences as on a bad dream: trains arriving and leaving without any regard to schedules, a series of nights passed on a chair waiting for a train to arrive, and when, at last, it does arrive, to find it is composed of nothing but luggage cars, overcrowded with people, who, disregarding the intense cold, fight and bargain between themselves even for a place on the platform of a car. When, finally, a place is secured in such a luggage car, the risk is always run of being scorched when too near the big stove, which is placed in the middle of the car and continually kept burning, or of being frozen when forced to remain in a corner where the winter frost penetrates freely through finger-wide openings in the sides. Conditions were such that one preferred to remain and cling tenaciously to the worst of such quarters, even when the train stopped for hours at a station provided with a restaurant, than to leave the car to look for badly needed refreshment: one being afraid not only of the fight necessary to obtain food in a restaurant so densely packed with people that it often took at least twenty minutes to reach the buffet, but, worst of all, afraid to find one's place occupied upon reaching and struggling once more into the car.

Such are the difficulties vividly remembered when one first comes out of Siberia, and the impression on the mind is that one has left behind nothing but complete chaos. The personal hardship which has been endured on the journey out is so outstanding a feature of the thoughts that for a while it is difficult to obtain proper perspective and adjust one's mind to analyse the whole situation in an impartial way. One is inclined, in sheer desperation, to condemn a country where such conditions are possible as being in an absolutely hopeless state. Yet, when one calmly reflects, and thinks it all over, one is compelled to ask if after all it is as bad as it temporarily seems. Was there no moment during the stay in Siberia when one really believed that the regeneration of the country was possible; nay, that it had begun already?

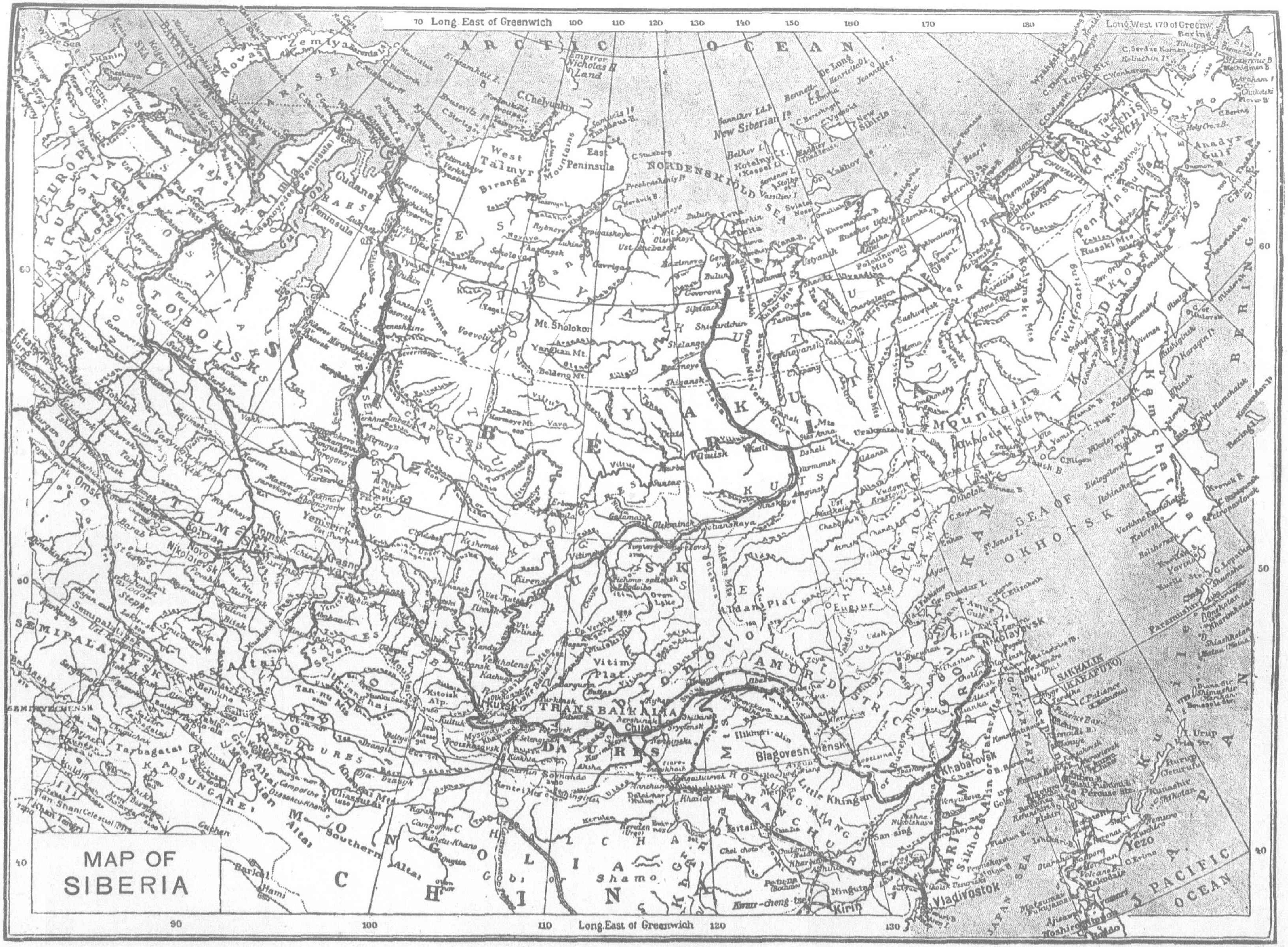
The answer to these two questions is that after subtracting abnormal conditions created by the complete disorganization of transport, due not only to the effects of the recent revolution but also to four years of war which had the effect of making the Siberian Railway the only artery leading to Russia proper (and transport there had to be strained to the limit of the carrying capacity of the railroad) there have taken place in Siberia so many changes making towards the economic development of the country that there remains no doubt as to its final regeneration.

Siberia, from a forgotten and ill-treated colony of Russia proper, is going to become an independent and self-supporting country, which, whatever its political relation to Russia might be, will decide its own economic questions in an autonomous way.

The natural resources of the country are known all over the world; to develop them Siberia now needs foreign help, extended to her not only in the form of military protection against the Bolshevik assault, but also in the form of economic help by the investment of foreign capital in the country. It is to this last proposition that I want to draw the attention of foreign business men, of whom very few only seem to realize the opportunities awaiting them in Siberia.

For most foreign business men Siberia is more or less a terra incognita. They have all, of course, heard of the immense richness of the country, but they have been prevented from devoting their special attention to this field of commercial enterprise first because of the strict regulations and manifold formal and practical difficulties existing under the Czar's regime, and now by the political unrest prevailing there, but the former has gone and the latter is a temporary condition. Reports of people who have left Siberia during the period of turmoil and, who suffered much from the lack of commodities and the disorganization of transport, will not, of course, do much towards changing the attitude of the business men. It must not be forgotten that the situation in Siberia can change from one day to the other; that in such a vast country—counting in the most populated districts not more than 30 people to the square mile, of which 85 per cent. are occupied with farming—political unrest is confined to the few industrial centres along the railway and can be easily broken if the railway is occupied and policed by the necessary number of loyal troops. This question is at present being discussed at the Peace Conference, and if the decision is made by the Allies to

CAMP OF NOMADS IN NORTHERN SIBERIA

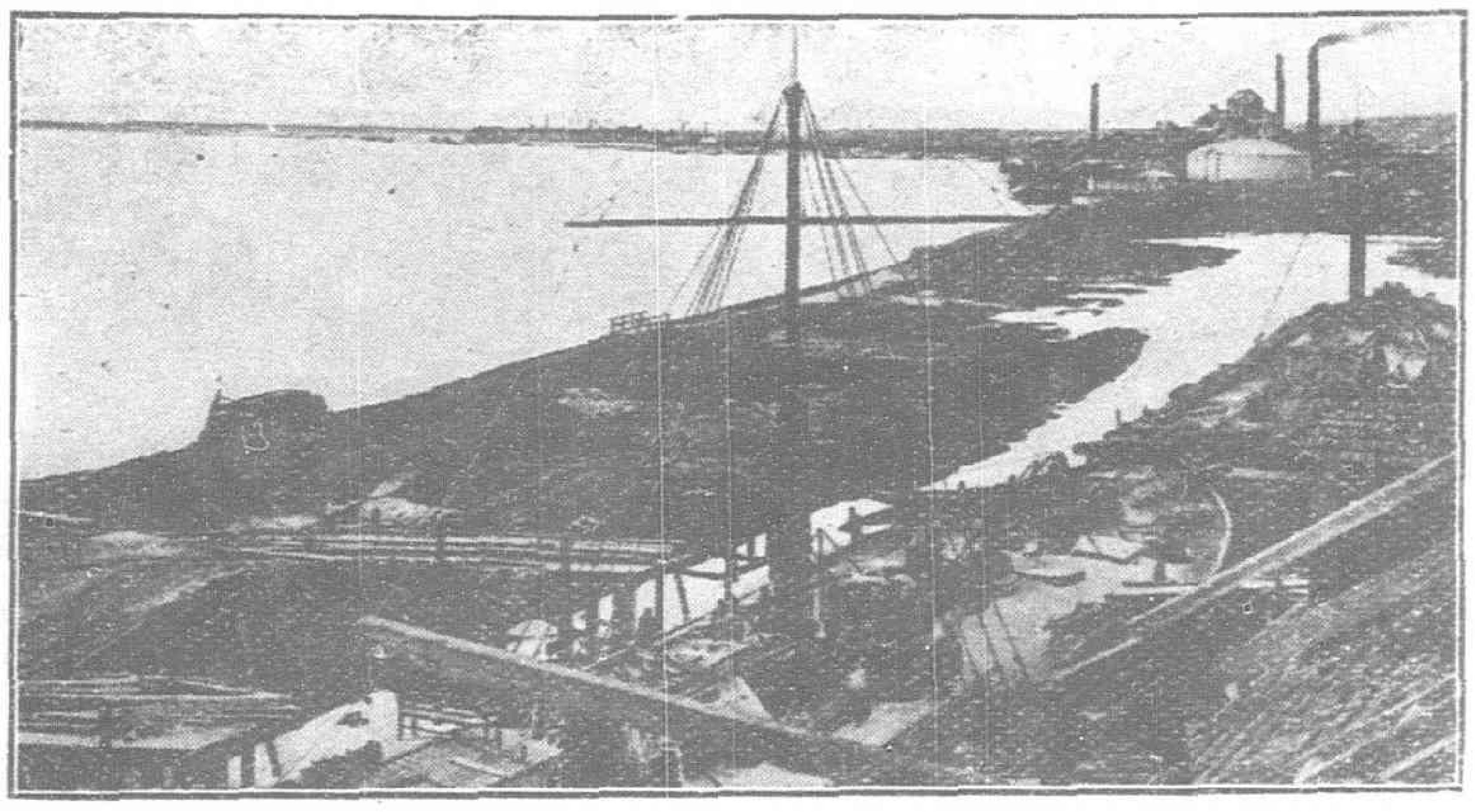


MAP OF SIBERIA

bring the Siberian Railway under Allied management, conditions might improve in Siberia quicker than in any other country of the world. [Since the above was written an arrangement has been come to for the management of the Siberian Railway, by the Allies, the terms being given later on in this issue.—ED., F.E.R.]

## What is Siberia?

To present an approximate idea of what Siberia could mean to enterprising capitalists, ready to invest their money in a new field of business, it is necessary first to give a brief sketch of the geographical position of the country. Stretching from the Ural Mountains in the west to the Pacific Ocean in the east for 6,000 miles; bordered in the north by the Arctic Ocean and in the South by the outposts of the Chinese Empire, Siberia covers a total area of only a little less than five million square miles, in which the most diverse physical conditions are found. Far the larger part of the country consists of tundra (frozen swamps with practically no vegetation) and forest-belts, which for a long time to come will remain uncultivable; but after eliminating the portions, unfitted for agriculture, there remain about 500,000 square miles of arable land, an area nearly equal to that contained in the twelve north central States of the United States of America.



SHIPPING SALT ON THE KAMA RIVER

The arable land stretches along both sides of the Trans-Siberian Railway in Western, Central and East Siberia, and consists of fertile plains of black earth and boundless grazing steppes. This long belt of most fertile soil has, besides, all the natural conditions requisite for a well-populated and prosperous country. It is surrounded by vast forests and rich pastures: coal, copper and iron are found in convenient localities in all its parts, and a wonderful system of great rivers exists to facilitate all kinds of internal commerce, while climatic conditions are altogether very favorable. It has been estimated that if these districts were thoroughly colonized and properly cultivated they could sustain a population of at least 500 million people, i.e., nearly one hundred times larger than the present population of Siberia.

From an economic point of view the part of Siberia lying west of Lake Baikal is of chief importance, for it is here that the immigration from Russia has been directed for the past twenty or thirty years. This section of Siberia is formed by great plains over 2,000 miles in length from east to west, which are watered by the river systems of the Obi, Irtysh and Yenisei, which rise in the Siberian Altai mountain system. Beginning from these mountains, great plateaux, rich in minerals of all kinds, slowly sink northwards into vast plains to the sea level, and here it is that we find wide stretches of wheat growing black-earth land with uniform physical and climatic conditions.

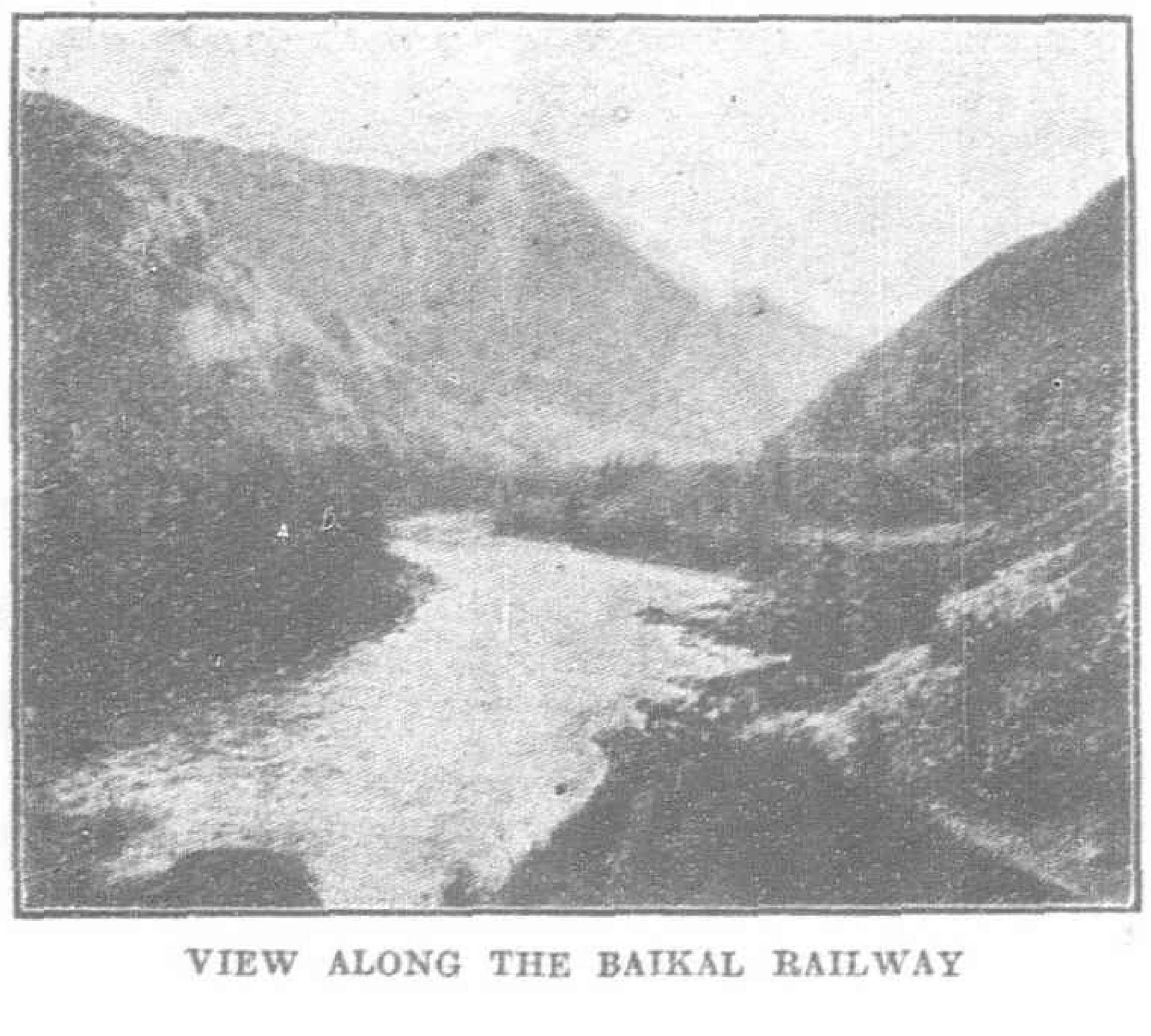
## The Great Rivers of Siberia

Through these even plains flow the large rivers of Obi, Irtysh and Yenisei, to their greatest extent navigable for big ships. Altogether Siberia has over 27,000 miles of navigable rivers, making up in part for the lack of artificial ways of communication, and although all of them have the disadvantage of affording no outlet for foreign commerce, emptying as they do into seas that are ice-bound during a larger part of the year, their great advantages to internal commerce cannot be overlooked.

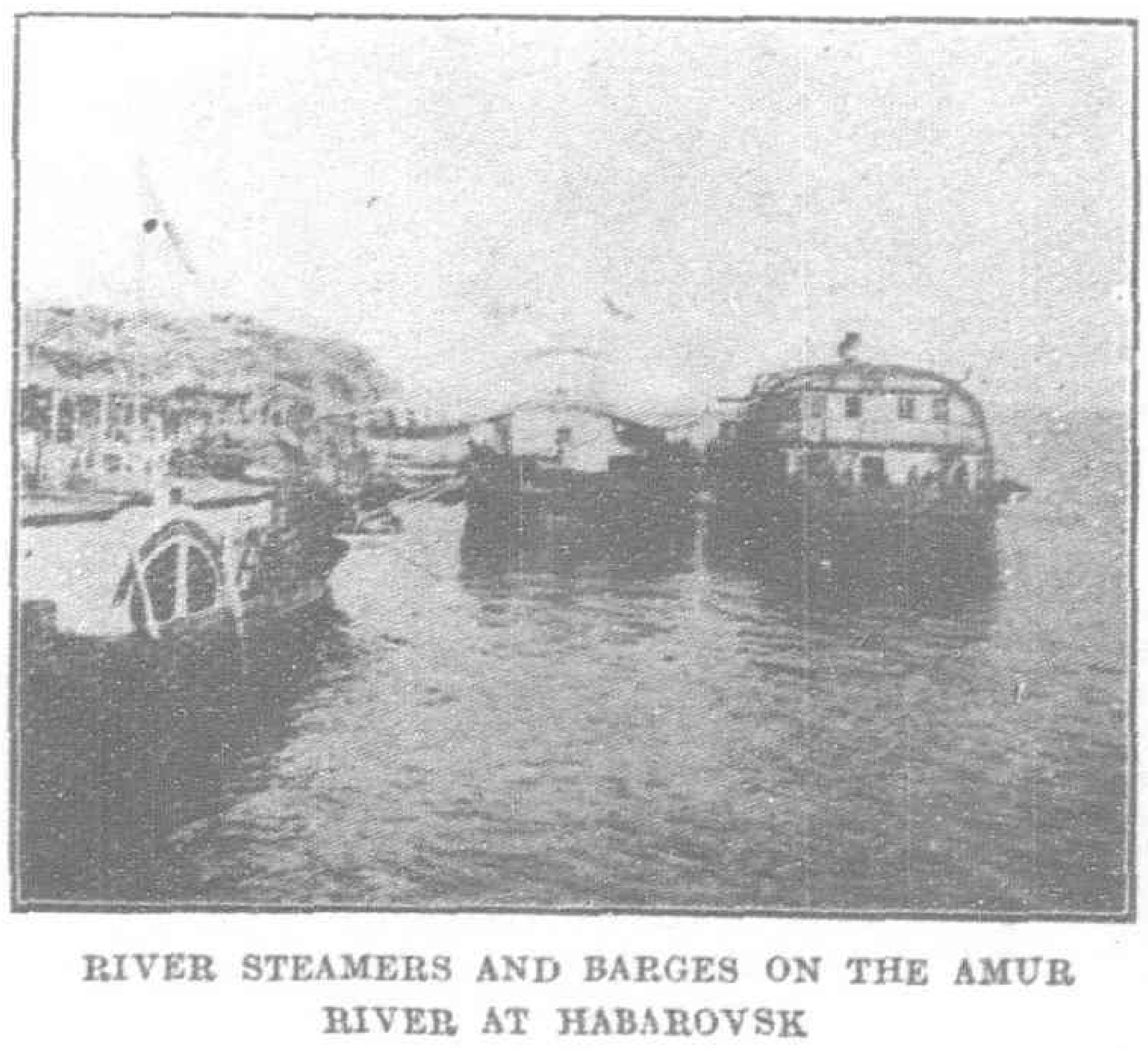
With short interruptions water communication is available for commerce along an east to west line across the plains of Siberia from the Ural Mountains to the western border of the Yablonoi range. From Tyumen steamers descend the Tura and Tobol rivers to Tobolsk, thence on the Irtysh, the Obi, and the Ket (a tributary of the Obi) they reach a short canal of only five miles communicating with the Kas, a navigable stream emptying into the Yenisei. The Yenisei river system is divided only by a short passage from a tributary of the Lena river. This constitutes a perfect water route parallel to the Siberian Railway, and only a few improvements are required on two places where the artificial junctions of the Obi-Yenisei system on one side, and the Yenisei Lena system on the other, have been effected to make the whole waterway navigable for big river steamers. Besides, these rivers have innumerable branches running from the interior of the country, all more or less navigable for bigger steamers. As all the great rivers flow from the south to the north, they have to cross the Trans-Siberian Railway, and thus all serve, to a great extent, to feed the railway with raw products brought from the interior.

## The Siberian Railway System

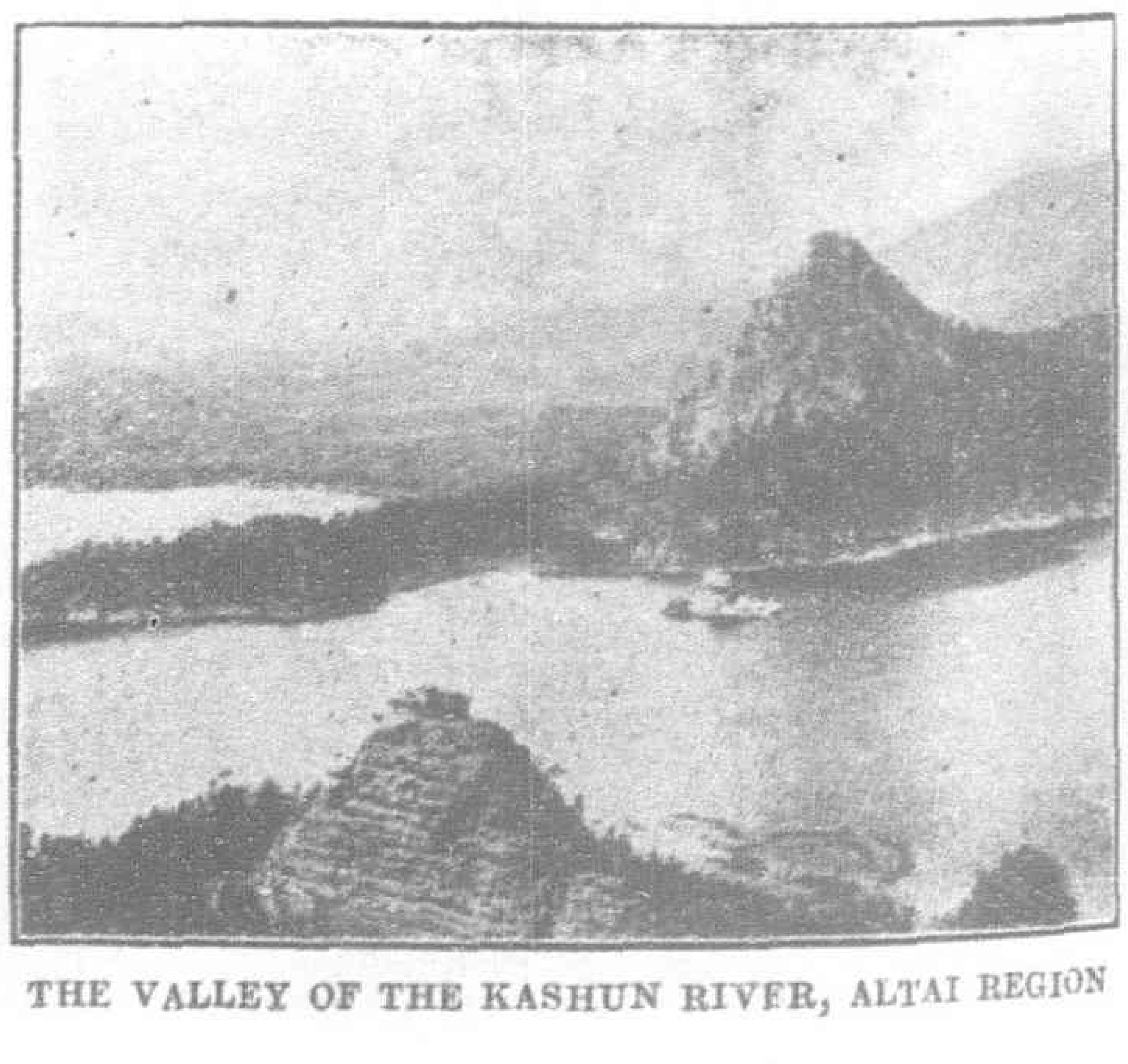
In former days the trade between European Russia and Siberia was all conveyed by water route. Now, however, the part played by the great rivers is an auxiliary one to the Trans-Continental Railway System, which, however insufficient as it might be for such a big country as Siberia, is still a great achievement from a technical point of view. From the Ural Mountains, starting from the two industrial centres of Ekaterinburg in the north and Cheliabinsk in the south, two branches of this railway lead to Omsk, the present administrative centre of Siberia and seat of the present government. Thence a double tracked line crosses the great wheat belt of western and central Siberia, reaches the coal fields around the Baikal Lake, traverses Trans-Baikalia, with its iron and silver mines, and at Chita parts into two branches, one leading southwards to Manchuria, the other along the Amur



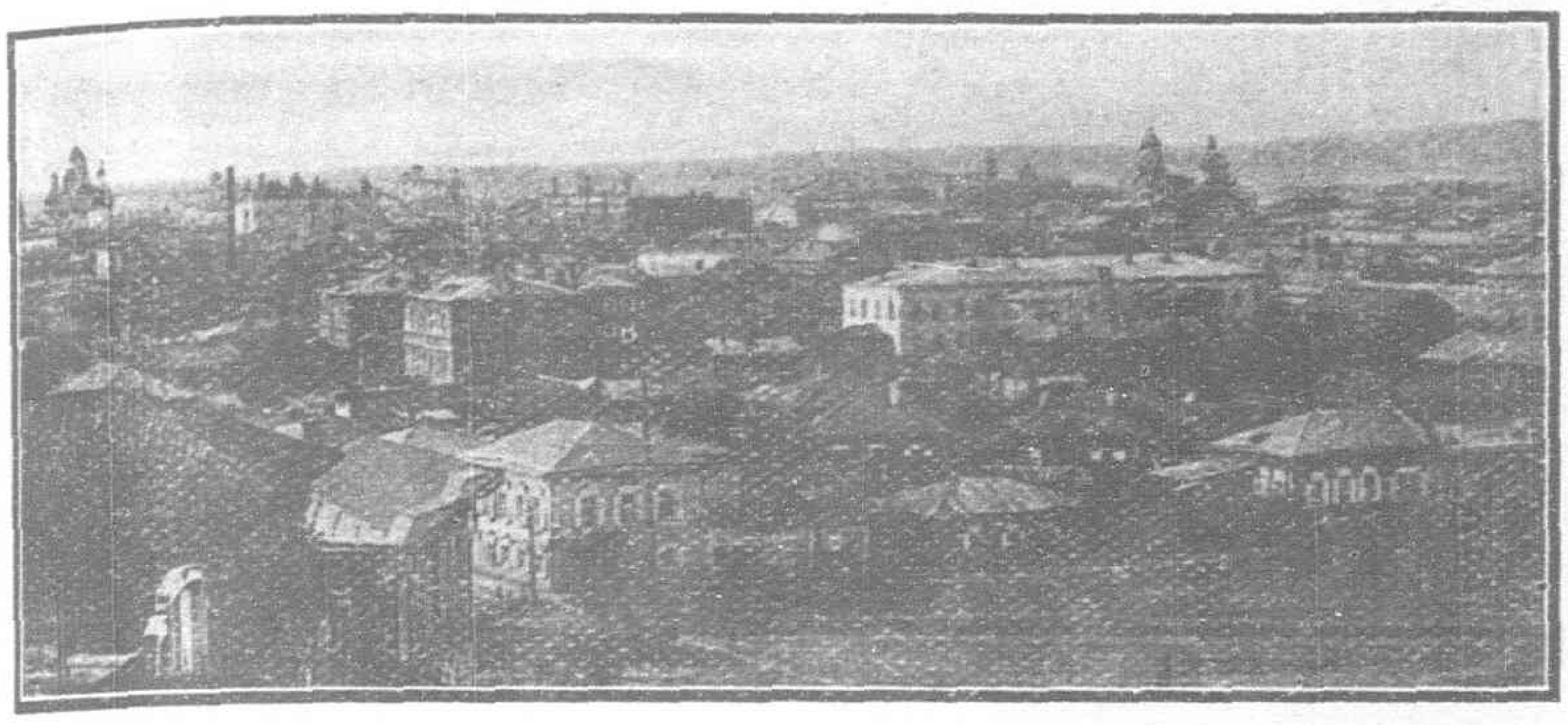
VIEW ALONG THE BAIKAL RAILWAY



RIVER STEAMERS AND BARGES ON THE AMUR RIVER AT HABAROVSK



THE VALLEY OF THE KASHUN RIVER, ALTAI REGION river, rich in gold and fish, to Vladivostok, the only gateway of Siberia on the Pacific Ocean. In addition to this main line there exist a number of lateral lines, partly finished, as for instance the one through the Altai Mountains, over 500 miles long, partly under construction as the South Siberian trunk line from Orenburg to the Altai.



IRKUTSK, THE METROPOLIS OF SIBERIA

Wherever the lateral lines join the main line, or where the great railway crosses the principal rivers, flourishing towns are springing up, which in a very short period, from mere collections of huts, transform into busy transport centres. Tiumen, Kurgan. Petropavlovsk, Omsk, Novo-Nikolaevsk, Krasnoiarsk, Irkutsk, Chita, Khabarovsk, Vladivostok and Harbin are the great commercial centres along the main railway line under Russian domination, where the population was rapidly growing before the war as a result of colonization and the development of commerce, and where lately such a stream of refugees has been continuously pouring in that in most of them the population has increased four or fivefold in a few years. These towns are now overcrowded, they lack accommodation for such a sudden increase in population, and it is no wonder that conditions there just now are in a more or less chaotic state. Besides, most of the refugees are still nursing the hope of returning to their former homes in Russia, and look on the government as being obliged to provide for them until their return home will be possible, but as this hope gradually fades away they will have to settle down and indulge in some peaceful occupation.

## Influx of Artisan Labor

Among these refugees are all kinds of artisans who, if they settle down in Siberia, will bring into the country part of their western knowledge of industries. The former colonization of Siberia was under Government control and consisted more or less exclusively of peasants distributed over the farming land, with the intention of opening up the land for cultivation. The present new-comers would in this respect differ from the former colonists as there are only few real farmers among them, but their use to the country would not be smaller as they would make the stock of a town's population which would carry on the local commerce, start small industries for working out the raw materials produced in the country, and bring fresh movement into the lazy and uniform life of the Siberian population. In fact they are already to be seen beginning to make their own living, although there is very little system in their methods as yet. The way they proceed is called in Siberia "speculation," and the method is very much resented by the population, although it has very little to do with real speculation in the form of hoarding up foodstuffs or other necessities with a view to making prices rise. What the "speculators" do is simply to take advantage of the variation in prices in the different parts of the country and of the impossibility of forwarding stuff by goods cars, by travelling up and down between towns and carrying the goods along with them without a government permit for trading. This commerce pays them very well, but if one considers all the hardships they have to endure while travelling in horsecars in the frost it will be agreed that they really deserve their profits, and besides, even if they afterwards sell their goods at very high prices it is still the only manner in which a small quantity of manufactured articles is brought at present into the interior of the country.

MAIN STREET IN IRKUTSK

According to the last official estimates, made some seven years ago, the population of Siberia was under ten million people. Now the Russian refugees will have brought this figure very near to thirteen millions, and eighty-nine per cent. of them are engaged in agriculture, forestry and fishing.

## The Purchasing Power of the Peasants

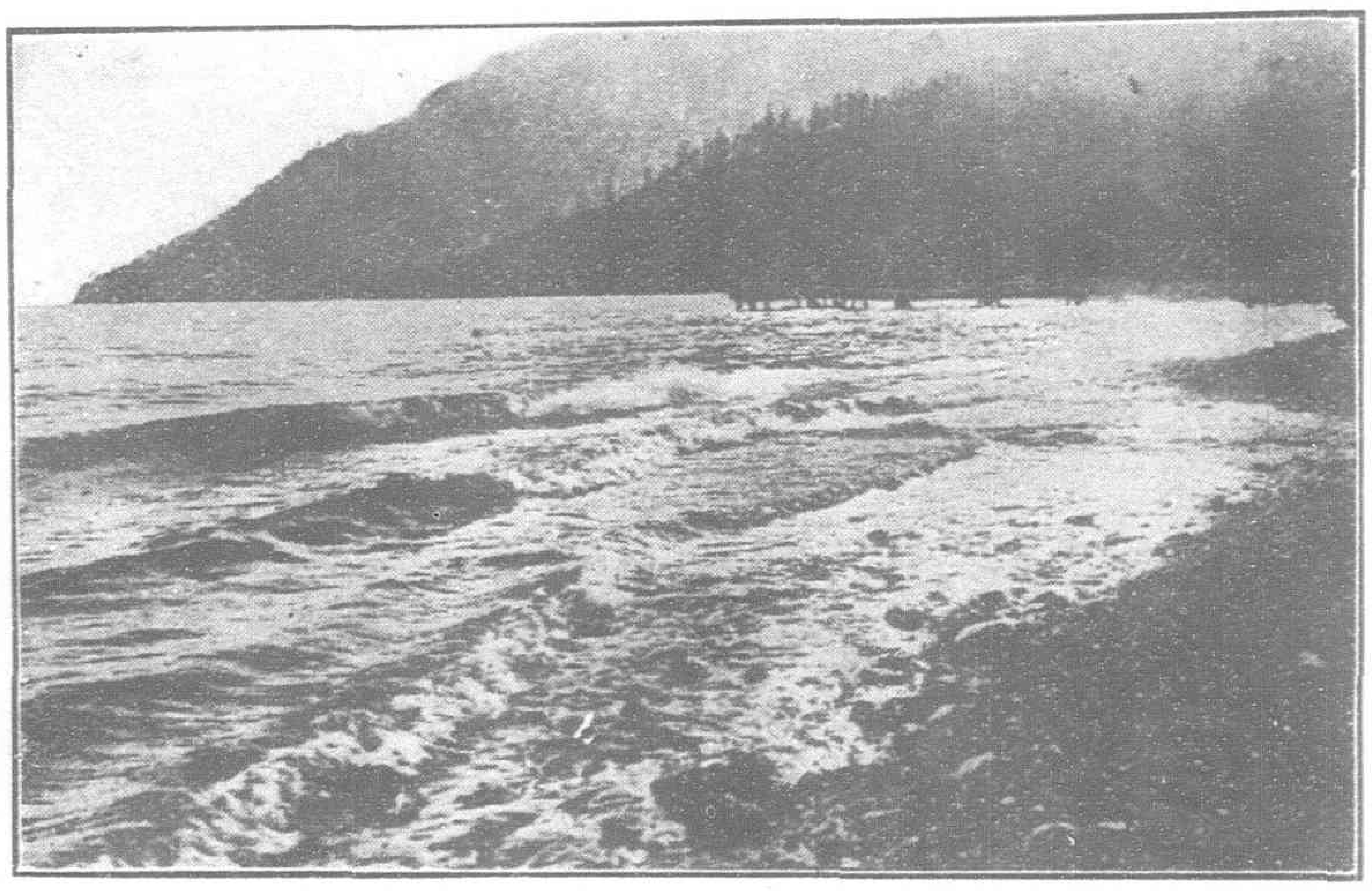
The basis of the Siberian peasant's wealth is his land, and even most of the peasants who hunt for furs, prospect for gold, trade with the natives (Tartars, Kirghis, Buriyats and other Mongolian races who are gradually dying out) or carry goods on wagon roads to the town, only follow these occupations to supplement the returns of their land. The economic conditions of the Siberian peasant are apparently prosperous; he is practically self-supporting; his chief articles of food—bread, milk, meat and cabbage—cost him nearly nothing, and he also supplies his own needs in clothing by making sheep-skin coats, felt boots, and rough flax garments. During the war he has realized very high prices for all the products he has sold to the towns, and it is now an open secret throughout Siberia that all the gold and silver and all the better paper money which were previously current in the country have been withdrawn from the market by the peasants, who are putting the wealth in bottles and hiding it in the ground. They have not been very adversely affected by the revolutions, either. On the contrary, they have succeeded in refusing to pay taxes either to the Provisional Government of Russia, or to the Bolshevik Government.

BURIAT TYPES ON THE ONON RIVER, TRANSBAIKALIA

The present buying power of the peasants is nearly unlimited. but there is nothing now in the country that they could buy They, therefore, continue to increase the prices for the goods they sell to the townspeople, stating frankly that they would gladly sell their products cheaper if, in exchange, the townspeople would procure for them the manufactured articles they need. What they require for immediate use is chiefly tea, tobacco, and sugar, but the growing wealth has created among the Siberian peasants a strong demand for such articles as they formerly would scarcely have dreamed of buying. It is common now to see simple peasant women readily paying exorbitant prices for second-hand satin and velvet dresses sold by the wives of government employees whose wages are now much too low to keep up with the ever rising standard of life, whereas in pre-war days Moscow cotton prints were all the peasant woman could afford to buy for her Sunday's dress. The demand for imported goods such as clothes of western cut, American footware and household articles, has greatly increased and is limited only by the difficulties of transportation.

## Agriculture the Greatest Industry

The products of the fields are utilized by the peasants in the following way: all the hay and oats are kept by them for the winter use of their stock, while the products of the wheat and rye are partly used for household consumption, and partly sent to the market of the nearest town. Cultivation is yet in a very primitive state: the system of continually cropping with wheat is generally in vogue, and the land, after exhaustion, is made fallow while fresh is being broken up. The use of agricultural machinery is rather limited as yet, but this is chiefly on account of the present high prices for all agricultural implements caused by lack of imports, the Siberian peasant being comparatively progressive in his thoughts and ready to take up every improvement which is brought to him in the form of more modern machinery for the working of his fields.



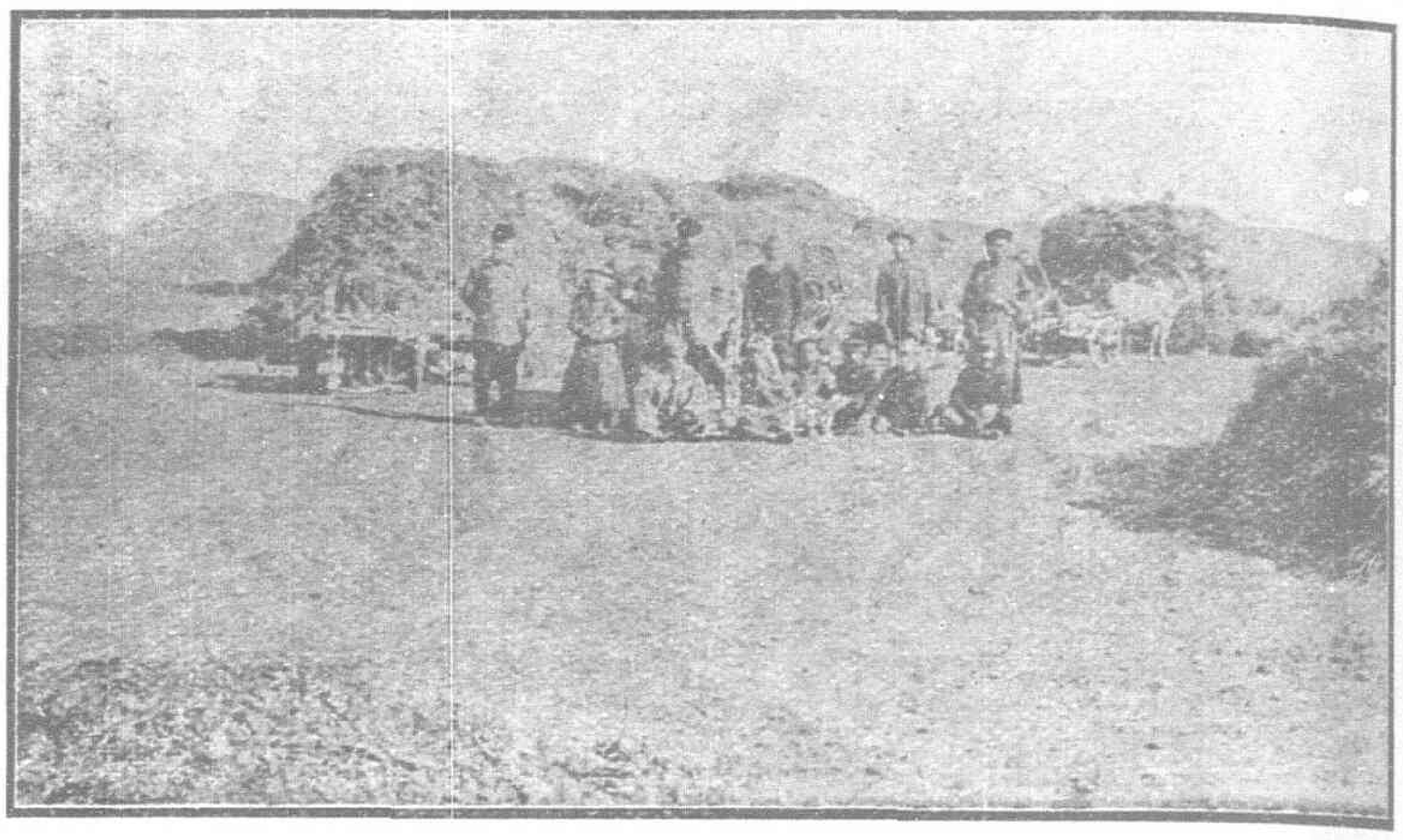
LAKE BAIKAL, NEAR THE SIBIRIAKOFF MILL

The usual allotment of land for a peasant living in a village commune is forty acres, with additional allotments for each adult son who remains with the head of the family. But the land is so rich that it yields in favorable places an average of thirty bushels to the acre without any manure, the use of manure for the fields not having been thoroughly realized yet by the peasant. But everybody who travels in the interior of Siberia is surprised to see how prosperous the peasant communities are.

Although agriculture is by far the greatest industry in Siberia, its results are actually very small in comparision with what could be achieved in this respect if the country was thoroughly colonized, all the cultivable area broken up, and agriculture carried on in a more up-to-date way. It must be remembered that at present in the best wheat growing districts of Kurgan and Ishim the population is not more than 30 people to the square mile, whereas in other districts which are fit for colonization and agriculture the population is very often below ten persons per square mile. This explains how it happens that until now so little wheat has been exported from Siberia to foreign countries, and how nearly all the surplus wheat produced in western and central Siberia and in the Transbaikalia has been mostly absorbed by the growing urban population of European Russia and Siberia itself.

## Live Stock and Dairying

What is true of agriculture also holds in the case of the second big industry of the country, namely, cattle raising. Besides the stock kept by every farmer in Siberia, and which averages about two horses, five cattle and ten sheep, the yearly increase on which is sold to the town, there are in the southern steppes to be found herds of tens of thousand of cattle, horses and sheep owned by the Kirghiz, a people which has remained more or less nomad up to the present day. The dry steppe, which stretches uninterruptedly from Siberia southwards across Russian Central Asia to the mountains of Turkestan, seem to impose no limit upon the development of the live-stock industry, but in the Steepes the herds are kept not for their meat, as the lack of cold storage prevents successful exportation of this article, nor for the milk, which requires better means of communication, but more for the by-products such as hides, skins, wool, hair, bristles, tallow casings, etc., articles which are easily transported and in which a lively commerce is carried on.

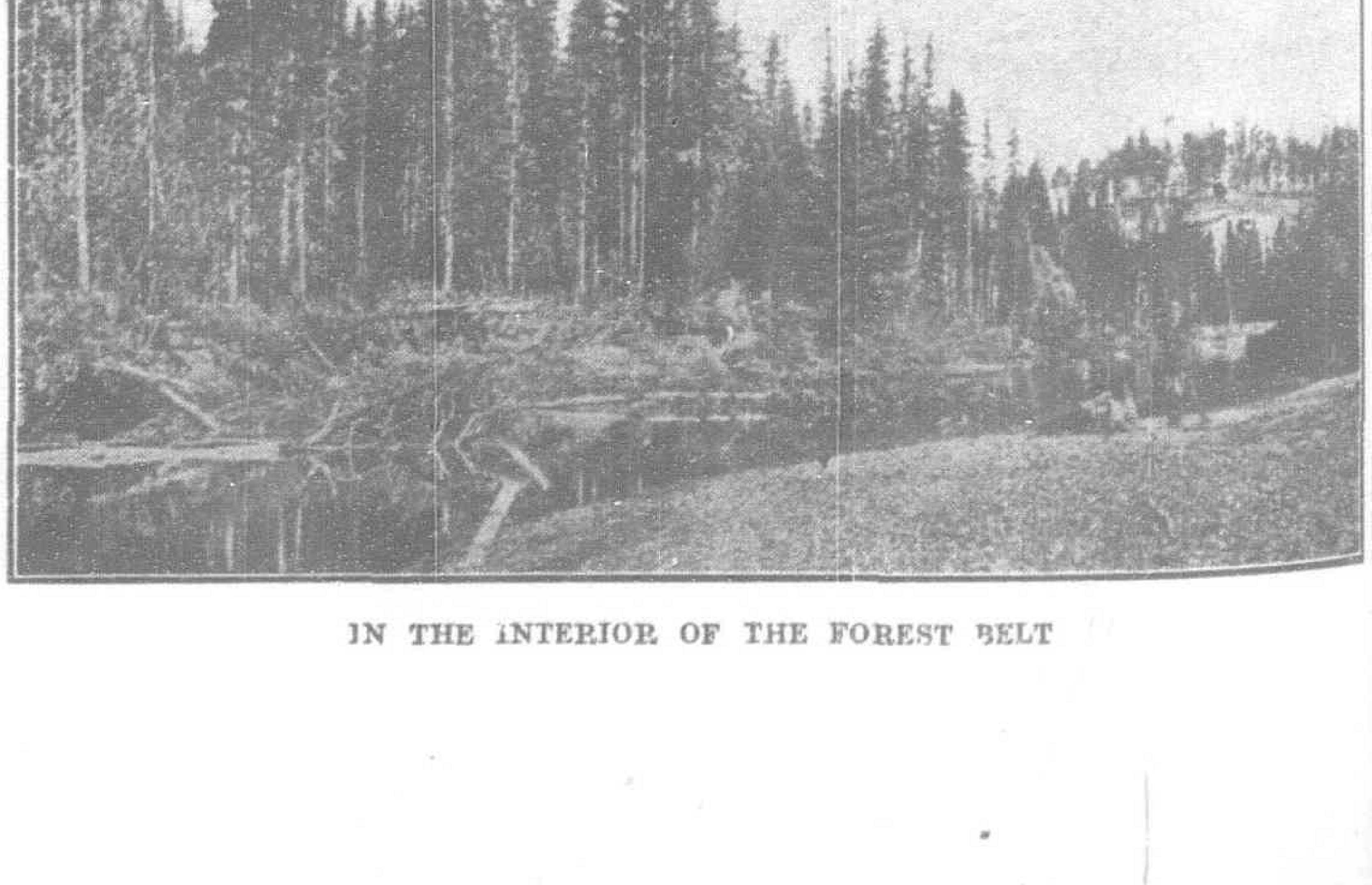


RUSSIAN FARM IN SIBERIA

In the agricultural districts the trade in live-stock has been greatly influenced by the growth of the dairy industry, through which, in recent years, the value of live-stock has increased very much. The export of butter is taking an ever more important place in the foreign trade of Siberia, as it is the principal article, together with eggs, which is high-priced and of little bulk and can bear the cost of transport to America and western Europe. This trade, which was formerly in the hands of the Germans and the Danes, is now being organized on a co-operative basis, the peasant communities instituting their own dairies and creameries and selling their products through the intermediary of a central organ. As an adjunct to this industry pig breeding has greatly developed, the butter-milk and material for fattening pigs being abundant and cheap. Bacon-curing factories have been established all over the agricultural area on different scales, and there is no doubt that when cold storage and refrigerating cars are introduced to a greater extent on the Siberian railways bacon as well as meat will be very important articles of export from Siberia.

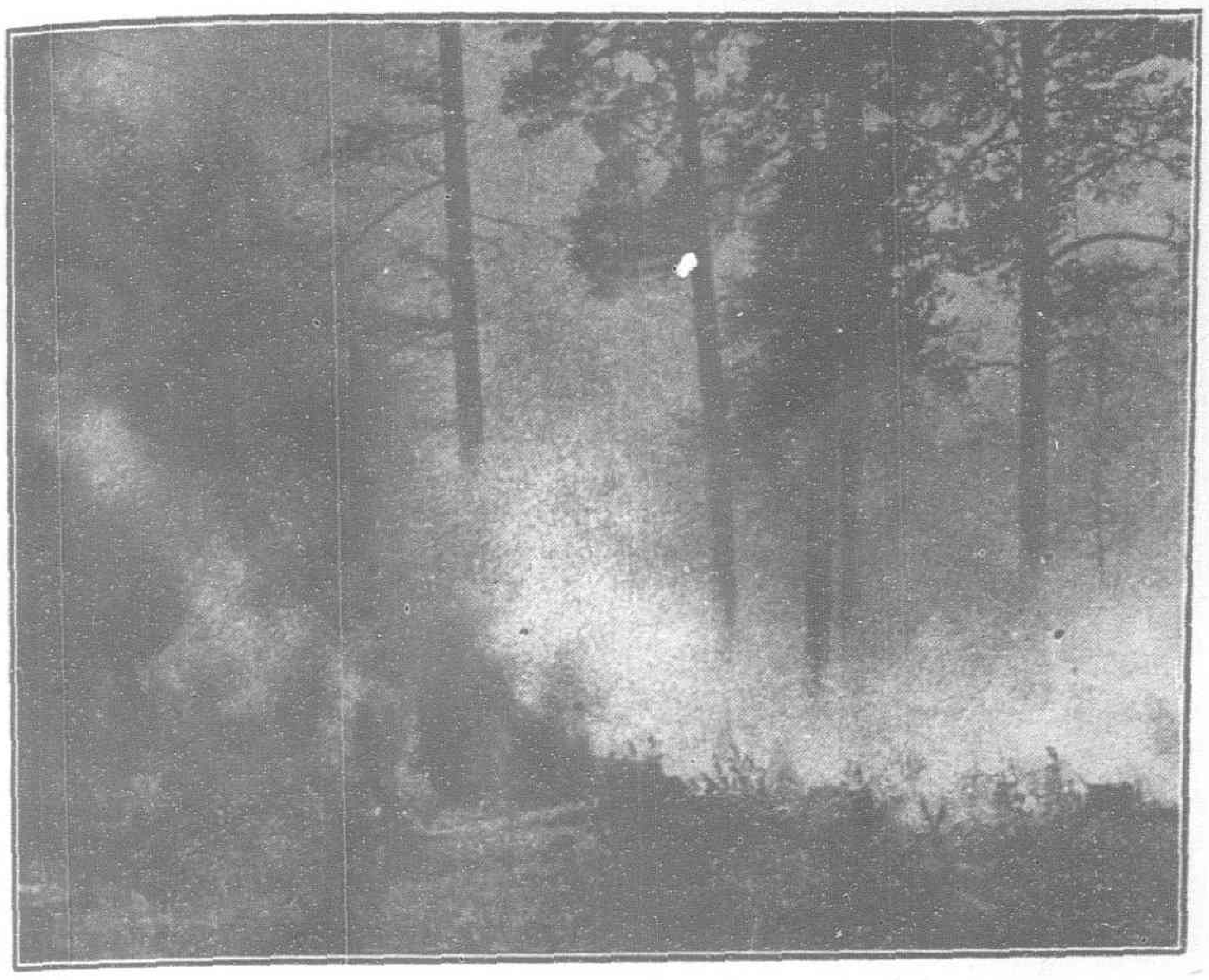
## Forest Products, Furs and Fishing

Great and practically untouched wealth lies in Siberia's enormous supplies of timber. The forests of Siberia are of untold extent, but along the railways they have been wasted and neglected.



IN THE INTERIOR OF THE FOREST BELT

the Siberian peasants exploiting the forests in a ruthless way without providing for new growth to come. Export, or even a systematical working of these forests, will be possible only when the railways are extended all over the country, and especially when the railway in the north of western Siberia, which will connect the Tobolsk district over the Ural Mountains with the White Sea in North European Russia, is built. In the meantime there is always sufficient wood to be had to provide for all the needs of the Siberian population, and also for the railways, for the locomotives burn wood, as coal has not yet been introduced to any extent, except in very few industries.



A FOREST FIRE IN SIBERIA

Hunting and fishing supplement on a large scale the needs of the Siberian population, and are carried on as a profession by the Ostyaks, Samoyedes and other Finn tribes in the north of Siberia. The difficulty of obtaining powder and lead for shooting, and nets for fishing, have hampered these two industries very much during the last few years, but, nevertheless, the trade in furs, fish and game has even increased owing to the high prices for all other commodities

Every description of furs are obtainable in Siberia, from the plainest to the most expensive. As articles of trade the most important are: white hare, squirrel, white fox, red fox, marder, hermeline, sable, blue fox and silver fox. These are bought from the hunters by Jewish fur dealers through their agents, Russians and Tartars, and brought to the markets of Tyumen, Tobolsk, Irbit and Irkutsk. Formerly most of the furs went to Germany. to Leipzig, were they were tanned and dyed, and after that were sent back to Russia. The one great drawback in this trade is that there are very few tanners in Siberia, and no skilful ones, and all suffer from the lack of good chemicals for their work.

Extermination of the most precious fur-bearing animals is, of course, going on to a certain extent, owing to ruthlessness of the hunters and to the advance of colonization in the northward direction, but this is still of very little importance as there are yet many places in the northern tundras where no human soul has ever penetrated.

Game is very abundant in Siberia. Carloads of woodcock, wild geese, wild ducks, moorhens are killed every year and attempts to export them in a frozen state have already been made in several instances.

The fishing industry has shown great progress during the past few years. The rivers in Siberia are very rich in fish of very high quality, but on account of bad transportation facilities the supply has always been greater than the demand. There is a movement going on now among the fishermen in the northern part of Siberia to organize for more effective work. They are starting to preserve the fish in a more efficient way, building their own canning factories, and their own ships; and if they will, in their own interests, carry on the fishing in a more scientific way so as not to exterminate the more valuable kinds of fishes, this industry could be one of the most promising in the future. At present fishing is conducted rather unsystematically, much of the catch being wasted; the fish are salted or smoked in a primitive way and serve as foodstuff for the lower classes of the population.

## Mineral Wealth

Of other industries the more important in Siberia are flour mills, distilling, brewing and saw milling, but far the greatest importance must be attached to mining, dealt with further on in this article.

Minerals of all kinds are abundant all over the country, but there are great gold placers scattered throughout Siberia which have tempted and attracted enterprising individuals for many centuries, through their richness and the ease with which they could be worked, they have earned for Siberia, among the Russians, the surname of the "golden bottom."

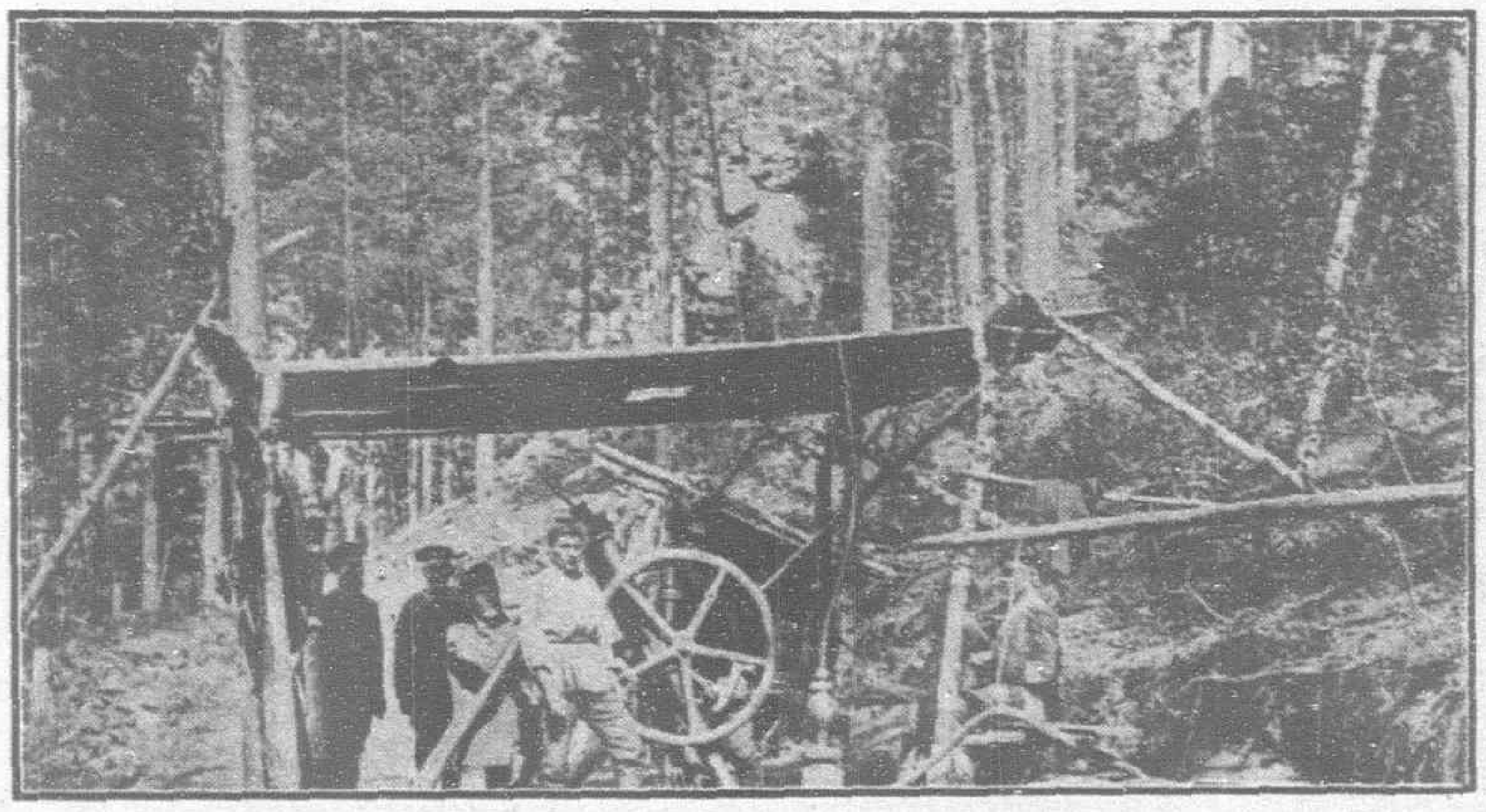
In addition to gold, silver, tin, copper, copper salts, mercury and antimony are found all over the country, especially in the Eniseisk and Irkutsk provinces, in the Transbaikal territory and in the Amur territory.

The supplies of iron and coal in Siberia are among the richest in the world, but up to the present very little use has been made of them on account of the great distances and lack of transportation in the country. There is a coal bed in the Bervosof district on the Obi river, where it is estimated that untouched supplies of over four million tons are to be found. The coal deposits throughout much of the Steppe region of Akmolinsk and Semipalatinsk; in the provinces of Tomsk, Irkutsk and Transbaikalia; in the lower part of the valley of the Amur, as well as in the vicinity of Vladivostok and the Island of Saghalien are sufficient to supply the wants of a great nation for a long time to come, while iron abounds in close proximity in the Altai Mountains near Minusinsk, and in the provinces of Irkutsk and Transbaikalia.

## Disorganized Transportation and its Effects

One of the chief obstacles to the economic progress of Siberia has been the great distance of the sources of production from the markets of consumption, so that the only articles which it has hitherto been found possible to ship abroad in considerable quantities have been high priced articles of small bulk, such as, for instance, butter. On the other hand, Siberia, a big country with ever growing population, has practically no industries of her own, so that virtually every manufactured article has to be imported from abroad. Thus as regards imports as well as exports, Siberia is, more than any other country, dependent upon the few but very extensive railway lines leading through its territory.

As a result of a four years' war and the subsequent revolution transportation on these railways has become more and more disorganized with the result that there now exists in Siberia a great need of manufactured articles of every description side by side with abundant and rich stocks of raw material which are waiting for export facilities. This creates an extremely favorable situation for future commerce, as there is no doubt that sooner or later conditions must improve on the railways, and then the new



BORING FOR MAGNETIC IRON ORE

trader coming into the field, if he does not come too late, will find there a ready demand for any articles which he has to offer for sale, together with a good supply of goods to be exported from the country.

ROCK OF MAGNETIC IRON ORE IN THE URALS

Conditions on the railways are not as hopeless as generally believed, especially now that the Allies have determined upon a scheme of control and operation. It is not to be forgotten that during half a year, from the moment when the Czecho-Slovaks first started in June last to clean Siberia of the Bolsheviks, until November last, when the last Bolshevik bands were driven away from the railway zone, Siberia was almost absolutely cut off from the outside world, and the traffic in the country itself stopped completely. The railway, during that period, was used only for military purposes, for transporting troops from one part of the country to the other. Fighting has occurred along the whole of the railway line, part of the track has been removed, bridges blown up, engines and cars burnt and destroyed and to a great extent taken away to European Russia by the Bolsheviks. There is demand for a great many very essential materials used on the railways which formerly were imported into the country and the supply of which had stopped during the unrest. Under such conditions it is no wonder that transport on the railways in Siberia is not carried on as efficiently as in former days. I should say, even, that it must be taken as a proof of the good intention of the Siberian population to work towards an improvement in their interior affairs, that imported articles are appearing at all in noticeable quantities on the Omsk and Tyumen markets—far away in the interior of Siberia—a fact which I observed myself in December last, i.e., one month after the railway had been entirely cleared from the Bolsheviks. Since November last transportation has been gradually improved, and at present business transactions can be carried on with reasonable safety as far as Irkutsk on the Baikal Lake, which comprises a vast though little populated territory. Altogether, of course, the scarcity of rolling stock is felt very much even in this part of the railway, and causes considerable delays in the delivery of goods, but these are conditions which are liable to improve in the not so very distant future.

## What Siberia Needs

It is very difficult to give a complete list of all the manufactured articles for which there exists a demand in Siberia, the wants of a population of over thirteen million being too manifold. It must be remembered that the bulk of the Siberian supplies consisted of goods imported from Germany and from European Russia; that there are no industries of any importance in Siberia itself, and that all communication between Siberia and European Russia, being broken off, the only ways for commerce to reach Siberia lead through Vladivostok and through Dairen from the East. Thus every description of manufactured article may be placed on the Siberian market over the Pacific with good prospect of success, the variety and amount of imported articles being limited only by the competition of the importers between themselves.

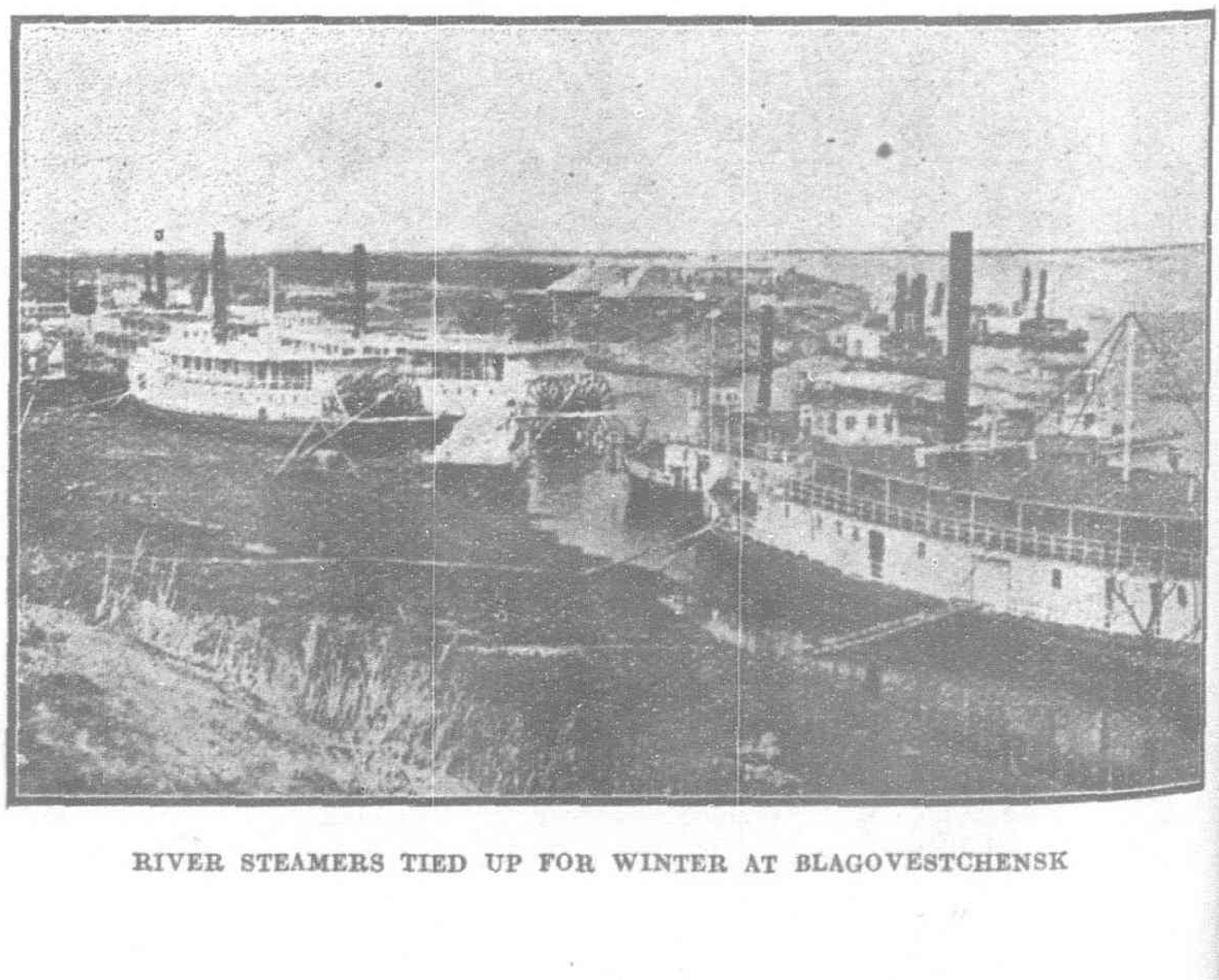
As Siberia is mainly an agricultural country it goes without saying that the chief part of the imports required are agricultural implements of all kinds, dairying machinery, hardware and tools. In addition to this—the purchasing power of the Siberian peasant having, as already mentioned, enormously increased during this war—there is a growing demand among them for articles formerly considered as luxuries. The Siberian peasants—together with the increased population of the towns, among whom there are many refugees from European Russia who have been able to get away with sufficient funds and who are now starting small factories—are persistently trying to purchase in the East clothing, textiles, needles, buttons and threads, shoes and boots, kitchen and other household utensils, etc., etc.

Although stocks of imported articles are now stored at Vladivostok, waiting for shipment to Siberia, they represent only a small part of the present urgent demand of Siberia and though new goods are being shipped daily to that port, prices nevertheless remain sky-high, and thus leave to the importer who brings the goods to Vladivostok a profit of at least 100 per cent. It is the natural desire of Japan to take over the inheritance of German trade in Siberia and to throw on the Siberian market whole showers of her cheaply manufactured goods, but Japan has very little chance to succeed unless the political situation takes a turn which would put her in an especially favored position so as to exclude foreign competition, as Siberia does not want cheap goods of poor quality, but is persistently clamouring for English and American-made goods of high quality. This gives to the Anglo-Saxon manufacturers a fair chance to make headway in the Siberian market, and it is their turn now to take the opportunity and work it in a way which could lead to mutual satisfaction.

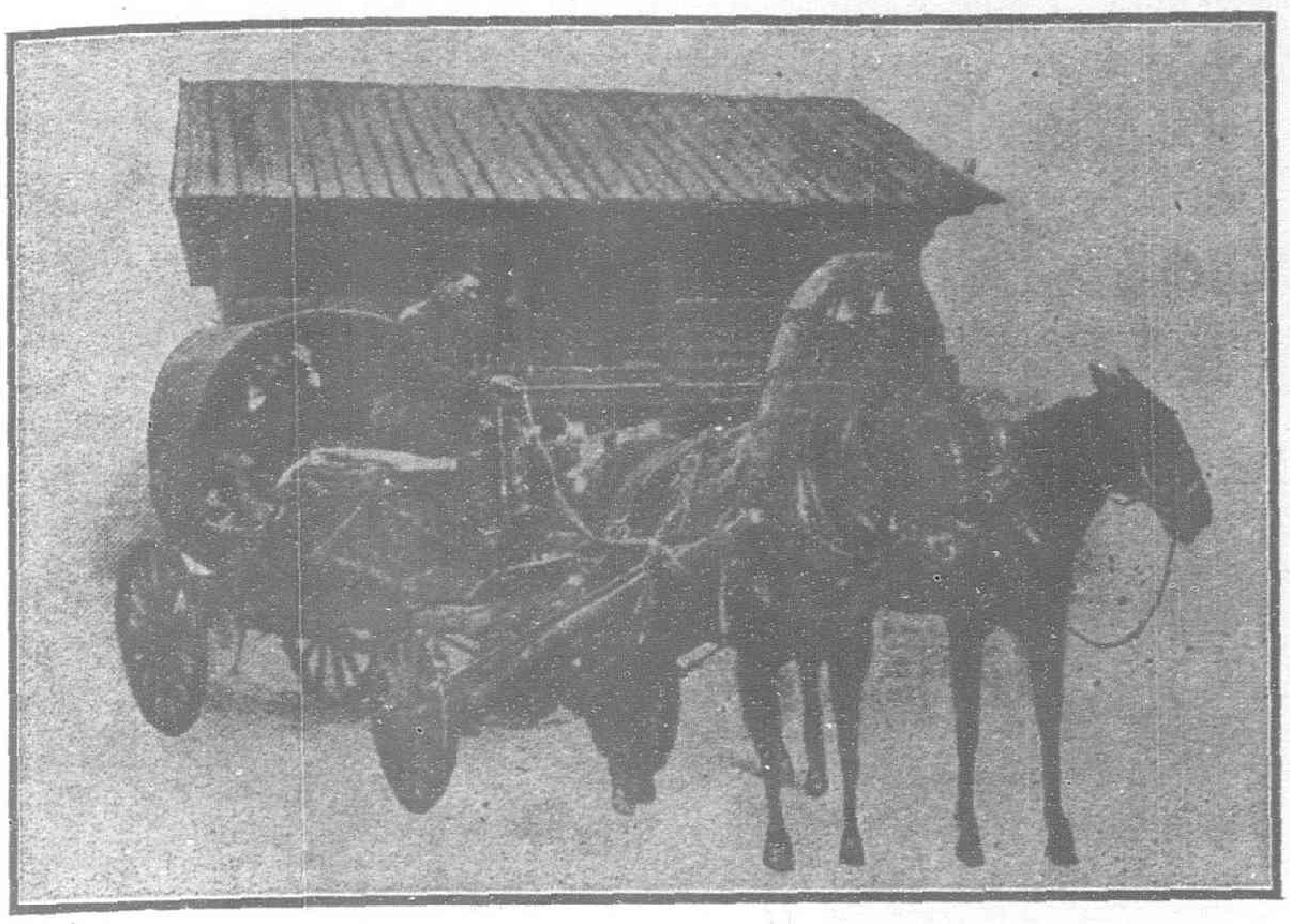
## How to Get Business in Siberia

There are great opportunities for business in Siberia for American and English exporters, but not through haphazard and half-hearted efforts Success demands fundamental study, constant watchful attention, and a greater investment of capital than would be required in some other fields. But the amount of capital required to place goods on the Siberian market is of far less moment than efficient management and administration. Commercial success in Siberia is, above all else, dependent upon the selection of the representatives who buy and sell the goods on the spot. In fact the foreign export trade to Siberia can be developed and retained only by the possession in the territory of competent representatives, not through agents, as many of the foreign exporters seem inclined to believe.

The foreign exporting firm that wants to make good must have its representative on the spot, a man who knows the Russian language well, the local conditions, the way commerce is carried on in the country, and who keeps constantly in touch with the Siberians. This man must be able to discern among the many new traders who are now coming to the principal towns trying to conclude business deals in one or another article, those who are reliable and who deserve credit to a certain extent from the chance merchants now being numbered by the thousands, who are solely on the lookout for a little coup quickly to clean up a



RIVER STEAMERS TIED UP FOR WINTER AT BLAGOVESTCHENSK couple of thousand roubles. Moreover, he must be thoroughly versed in the requirements of the Siberians and must try to suit his customers as far as possible by selling them the goods of the quality and the pattern to which they are accustomed. This last is very important, the taste and habits of the Siberians being in many respects absolutely different from those with which the exporter has to deal in other countries. Business on a strictly cash basis, for instance, cannot be carried on to a great extent in Siberia.



RUSSIAN TRANSPORTATION ON THE TSITSIHAR-MERGEN HIGHWAY

The refusal of English or American firms in the past to deal on anything but a cash basis is one of the reasons why most of the trade in Siberia before the war was monopolized by the Germans, who opened credit and debit accounts with the Siberian peasants and adopted for their sales the following conditions of payment: twenty per cent. cash on delivery, forty per cent. after twelve months, and the balance in two years. At present the Siberian merchants do not expect such favorable conditions, and generally they are now prepared to pay a margin of thirty per cent. when the order is placed and the balance upon delivery of the goods, if they are sure to get the goods at a very early date. The reason for this is that prices for goods on the spot, "in the face" as the Russians say, owing to the complete absence of any stocks, are abnormally high, and the Russian merchant is forced to meet for the time being the most rigid conditions imposed upon him by the manufacturer, in order to get the goods he is looking for. Permanent business relations cannot be established, unless credit is given to the firms of good standing. In general Siberian business men have always been disposed to meet their obligations fully, but they have been accustomed to long credits, have been often granted extensions by the German firms and will look for similar conditions as soon as the supply of shipments to Siberia increase again. Under such conditions it is absolutely necessary for foreign firms to have on the spot, as their representative, a man familiar enough with local conditions to form an opinion of the commercial and credit standing of proposed business connections. It will not be sufficient for the foreign merchants to inquire about the different firms at the local foreign or Russian banks, because conditions in Siberia have undergone a complete change since the revolution. Many old firms have been partly ruined, others have temporarily ceased trading, having no stock to sell, many new and promising enterprises are springing up, and of most of these the banks know little or nothing, as credit operations were practically stopped all over the country during the time of unrest on account of lack of money in the banks.

To establish permanent commercial relations with Siberia foreign firms should first choose a competent representative with knowledge of the Russian language and send him to Vladivostok to investigate the present requirements of the Siberian market. They should at once open warehouses in that port and ship there a certain stock—not too large to avoid unnecessary risk—of a great variety of articles required. There is no danger that part of this stock would remain unsold, the demand for every article exceeding by far the supply, and a very good profit is guaranteed for every shipment which could reach the port. Vladivostok is now crowded with merchants from all parts of Siberia, eagerly trying to get hold of any cargo on the spot which is brought to their notice. They all know that an indefinite time might elapse before the goods bought by them in Vladivostok can reach their destination in the interior of the country, but they do not consider that drawback very much, as they are glad to have made their purchase and be ready to start shipment on the railway when the first opportunity presents itself.

The first deals in goods shipped to Vladivostok by American or English firms at their own risk would constitute the foundation on which future permanent business relations could be built. To make it easier for new firms which decide to enter this field to choose the right customers it would be advisable for them, in the beginning, to deal only with governmental institutions, or with the numerous cooperative societies of Siberia. These societies have been characterized by very rapid development during the past 10 years, and during the two years following the outbreak of the revolution attained striking dimensions.

## The Co-operative Societies of Siberia

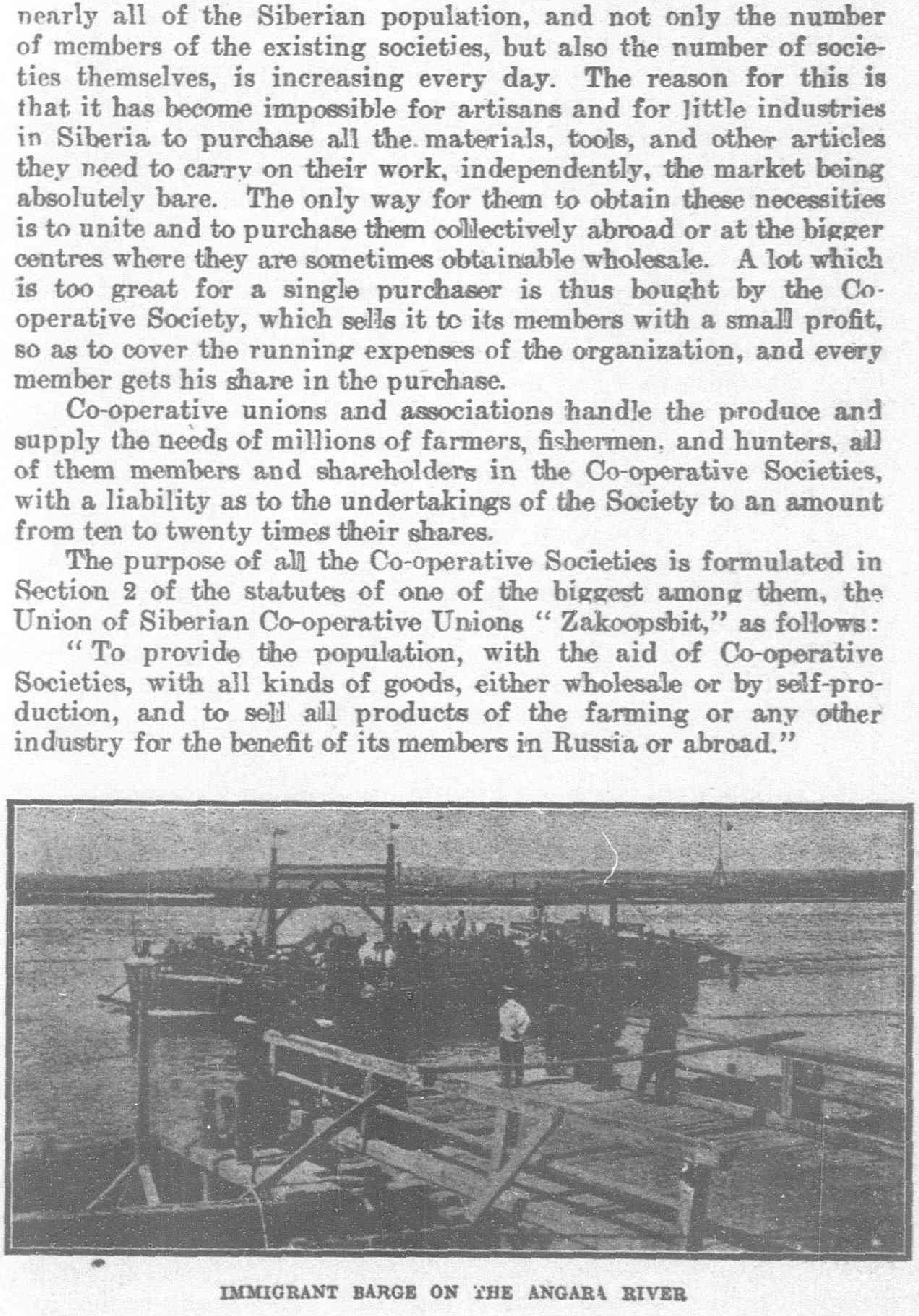
This movement has resulted in the combination of separate co-operative societies into unions and these in their turn have been united into organizations of a higher category. They all stand under the auspices of the Moscow Narodny Bank, which has branches in Vladivostok, Chita, Irkutsk, Novo-Nicolaevsk and Omsk as well as in New York, the financial balances of which, at the end of 1917, amounted to over 300,000,000 roubles.

In Siberia there are some 9,000 co-operative societies, uniting nearly all of the Siberian population, and not only the number of members of the existing societies, but also the number of societies themselves, is increasing every day. The reason for this is that it has become impossible for artisans and for little industries in Siberia to purchase all the materials, tools, and other articles they need to carry on their work, independently, the market being absolutely bare. The only way for them to obtain these necessities is to unite and to purchase them collectively abroad or at the bigger centres where they are sometimes obtainable wholesale. A lot which is too great for a single purchaser is thus bought by the Co-operative Society, which sells it to its members with a small profit, so as to cover the running expenses of the organization, and every member gets his share in the purchase.

Co-operative unions and associations handle the produce and supply the needs of millions of farmers, fishermen, and hunters, all of them members and shareholders in the Co-operative Societies, with a liability as to the undertakings of the Society to an amount from ten to twenty times their shares.

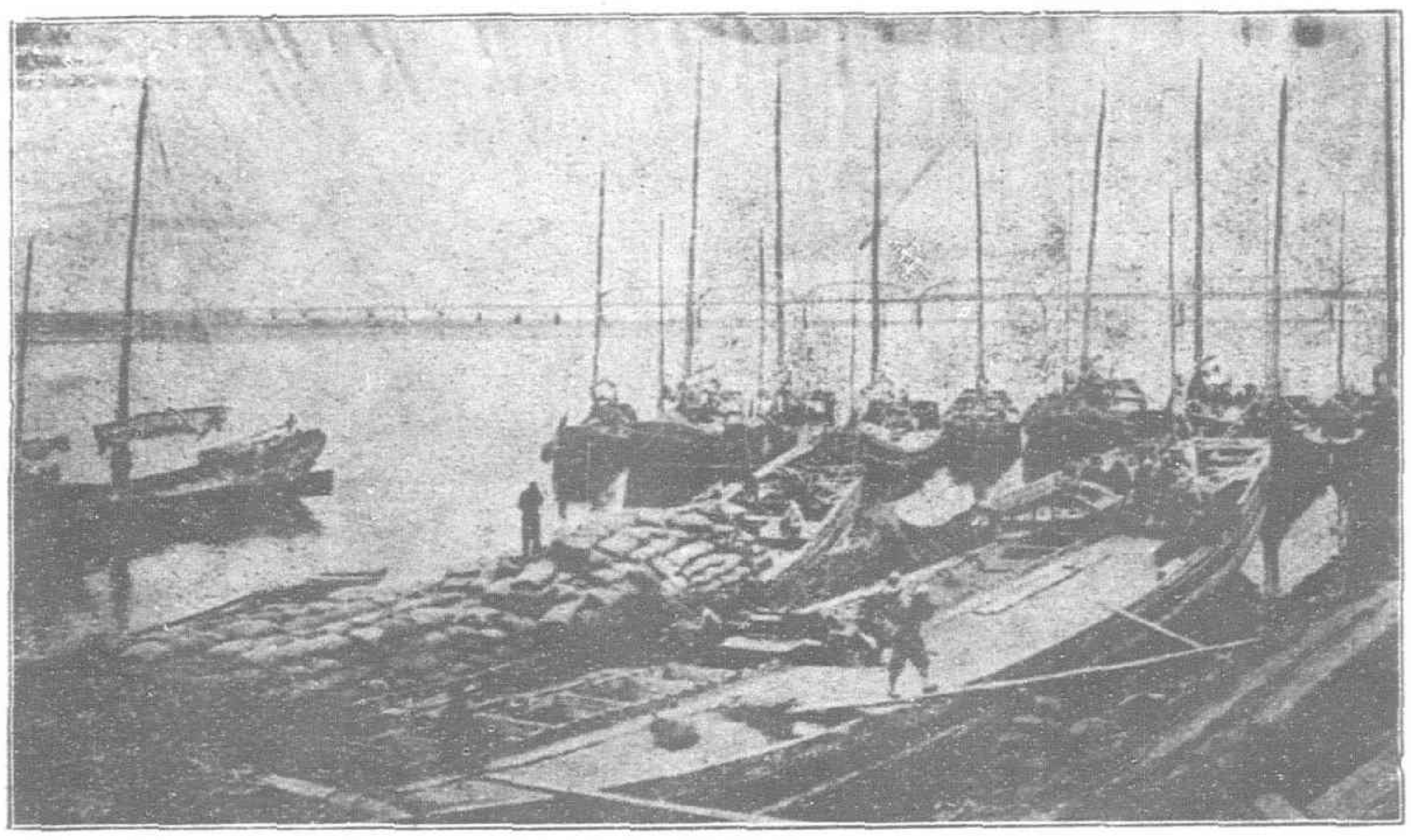
The purpose of all the Co-operative Societies is formulated in Section 2 of the statutes of one of the biggest among them, the Union of Siberian Co-operative Unions "Zakoopsbit," as follows:

"To provide the population, with the aid of Co-operative Societies, with all kinds of goods, either wholesale or by self-production, and to sell all products of the farming or any other industry for the benefit of its members in Russia or abroad."



IMMIGRANT BARGE ON THE ANGARA RIVER

They form a whole network over the land, by means of which imported goods have been lately distributed among the population, and this has done much towards popularising the movement in Siberia. Their financial strength has developed to an unprecedented extent since the revolution, although the foundation of many of them, as for instance, The Union of Siberian Creamery Associations, uniting the dairy industry in Siberia, was laid many years ago. From a commercial point of view the Co-operative Societies in Siberia must be considered as joint stock companies, with the only difference that the shareholders are at the same time the customers of the company.



MANCHURIAN GRAIN BOATS NEAR HARBIN

This guarantees to the societies a certain safety in their commercial dealings, as they are only purchasing goods for which there exists a ready demand among their members and for which they have their orders in hand.

No profit making is supposed to be allowed in these organizations: they sell only to their members; no member is permitted to have more than one share in the company, and care is taken that no member shall get more than his share in the company's purchase to the detriment of others. Each society has its shops in the villages, where the goods are sold to the peasants.

Societies of one district unite into unions of societies, who supply the needs of these societies, and, in their turn, form, with other unions—for the purpose of purchasing and selling abroad—such extensive organizations as the "Zakoopsbit," the "Centro-Soyuz," the "Sinkredsoyuz" and the "Uralo-Sibir." The "Zakoopsbit," for instance, whose statutes were registered only in November, 1917, owned in March, 1918, a capital of Rbls. 3,971,974, and the capital of its members—the Siberian Co-operative Unions—was more than Rbls. 40,000,000.

In the first four months of 1918 this Union made a turnover of 141 million roubles, whereas the annual turnover of the goods exchange of the unions that are members of the "Zakoopsbit" is over Rbls. 1,000,000,000.

The members of the "Zakoopsbit" represent 25 Co-operative Unions of Siberia and the Urals counting more than 8,300 separate Co-operative Societies with 5,000,000 members.

## Co-operative Societies Helpful to Foreign Commerce

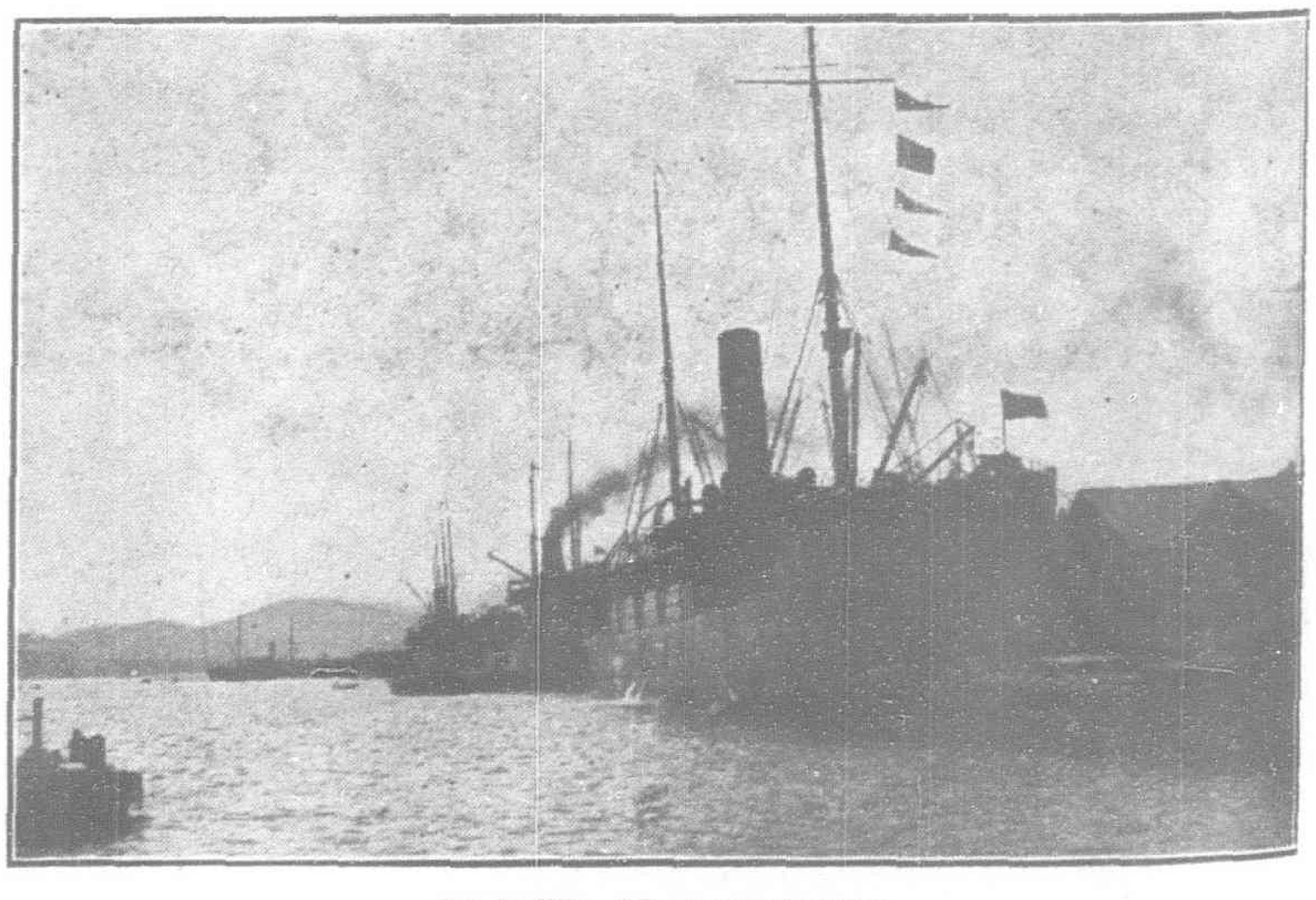
The existence of these Co-operative Unions will be of great convenience to the foreign firms who intend to form close business relations with the country. In these Unions the foreign business concerns will find reliable customers with big capital, well financed by the banks, and having the support of the Government. The support of the Government is of great importance in the present unsettled conditions of the country, as it gives to the Unions two very notable facilities: (1) The possibility of securing precedence in the transportation by the railways of cargo belonging to them, and (2) the help of the banks in all their financial transactions. Whereas private firms at present have to wait for months until their goods are forwarded by the railways and, besides—owing to scarcity of cash in the Government and private banks—experience great difficulties in obtaining cash payment by the banks for their cheques, transfers, etc., and are prohibited from exporting Russian currency abroad, none of these difficulties are to be met by the Co-operative Unions, which are considered by the Government as being of great public use in supplying the needs of the Siberian population.

Through the existence of Co-operative Unions commercial dealings in Siberia will to a great extent be facilitated and simplified for foreign firms. First, the question of credit will not present the former difficulties, as these Unions, having a certain amount of liquid capital, besides being assisted in their commercial transactions by their own and other Russian banks, will not require such long-term credits on the part of foreign firms as did the Russian merchant in former days. Moreover, the Co-operative Unions—who have their own Banks, and operate mills and factories, and have large warehouses and shipping yards—will be in a position to give better security for any credit they might require than any good Russian firm would give. And finally, behind the credit of the Co-operative Unions stands the credit of the whole Siberian peasantry, representing the members of the societies liable for the undertakings of the societies up to an amount from ten to twenty times their share. Such a collective liability, considering that the Unions are not trading with the purpose of speculation or of money making, but in order to supply a ready demand, makes their financial failure a most improbable thing.

A second great advantage which foreign firms will find in their dealings with the Co-operative Unions will consist in the following: it will be unnecessary for the firms to have their buying and selling agents in every town and village of the country. The union of unions will act as the chief purchaser, whereas through the unions and societies which enter into their concern and which are spread all over the country, they will gather the orders of and distribute the goods among the entire population. Of course, a foreign firm which wants to carry on a large and permanent business in Siberia will have to be well represented at the main centres of commerce in Siberia, but this more for the purpose of being well informed about the general conditions of the country, with the requirements of the market, and to show the Co-operative Unions the advantage of the respective articles which it wants to sell. But agents in the old sense will not be required any more, the Co-operative Societies undertaking the task of the middle-man.

By the aid of Co-operative Societies the purchasing power of the Siberian peasant, which is already now much higher than it was before the war, is bound to increase still more. The Co-operative Societies are opening banks all over the country, where the peasant will keep his savings and have credit and debit accounts with the Union. Thus, by the help of these banks, the peasant will be able to aquire machinery and tools on easy terms of payment, paying at a time when the harvest has been realized; on the other hand the Union does not run too high a risk in granting him such facilities, for his fellow-peasants, who are all financially interested in the Union, will keep an eye on him and make him pay in time.

It would be advisable for firms who want to establish a strong foothold in the Siberian market to get into touch with the Co-operative Unions right away, and meet them half-way, as the Unions are now sending their representatives abroad and establishing agencies in different parts of the world with the object of buying the goods they need. But up to now they are experiencing great difficulties in performing their task, for one reason on account of

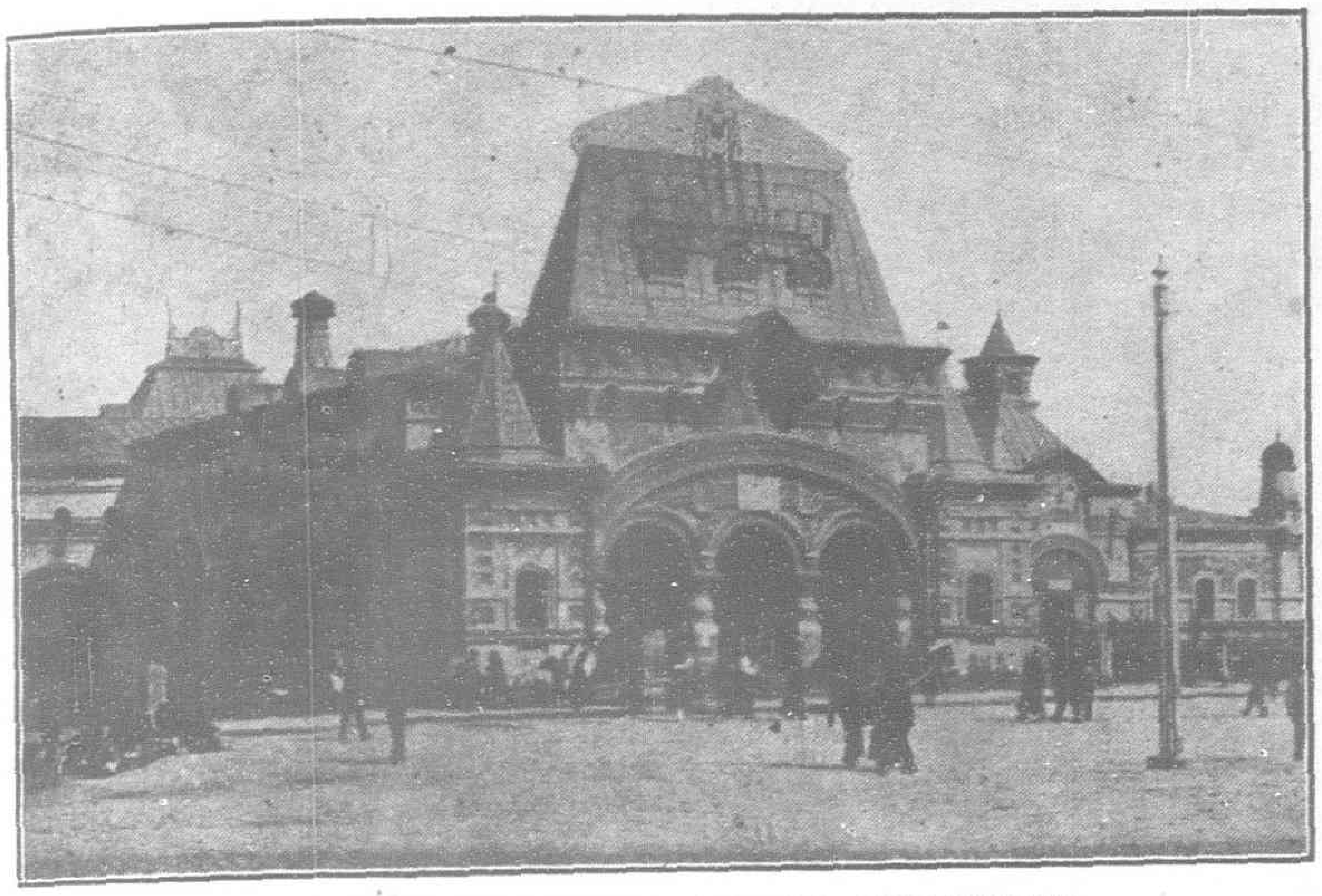


WHARVES AT VLADIVOSTOK

the scarcity of men in their service who know the English language well, and for another on account of very little knowledge at all about industries abroad.

## Importance of Knowing the Language

The language is a very important factor in business relations with Siberia: it is a mistake to think that any connections at all can be established with Siberia through correspondence, but in any case in letters the Russian language, and Russian weights and measures, should be used exclusively; while prices should be stated in Russian currency as soon as exchange conditions permit.



FRONT VIEW OF RAILWAY STATION, VLADIVOSTOK

The difficulty of obtaining men having knowledge of the Russian language is not so great as it would seem. There are many suitable Russians now in all parts of the world, especially in America and in the Far East—men who have had good positions in the former Russia and who have lost everything in the revolution and through Bolshevism; officers of the Russian Army, Government employees, and also merchants whose business has been ruined. Many of them have a certain knowledge of the English language. All of them would be only too glad to go into business again, and it would be sufficient to take them for a few months into good business training on English or American lines in order to find out their respective characters, to chose among them and to send them to Siberia on the firm's business.

A rather serious drawback for business transactions at the present time is the financial situation in Siberia which is complicated by the fluctuation of Russian exchange and by the lack of standard Russian currency. Although it is always possible at Vladivostok to convert Russian money into Japanese or American money, and prices are fixed for merchandise on such lines, it makes transactions, other than those where payment is effected upon delivery, impossible, and, therefore, the larger part of the business is being financed on the basis of the exchange of Russian raw material for foreign merchandise. This tendency is supported also by the newly formed U.S. Russian Bureau Inc. at Vladivostok, whose purpose it is to acquire complete control and supervision over the regulation and development of Russian-American trade relationship. Without attempting to do any direct merchandising on its own account, except in those cases in which it is impossible to work out arrangements for the exchange of American merchandise for Russian raw materials through private firms, and having no intention to compete with private interests, the Bureau will help to develop an actual exchange of goods between the two countries. The Bureau will have control of all tonnage moving from the United States to Russian ports, and for the time being, all shipments of merchandise to Siberia will go forward under its direct control.

## Vladivostok a Gateway to Siberia

That an actual exchange of goods through Vladivostok is a possibility is shown by the trade returns of this port during 1913, the last normal trade year before the war. Whereas in that year 420,000 short tons of goods were brought to Vladivostok from foreign countries over seas and 190,000 from Russia; the coastwise trade into Vladivostok amounted to 370,000 tons, and the railway traffic into this city equalled 220,000 tons, making a total of imports of 1,200,000 tons. Exports from Vladivostok in the same year amounted to 860,000 short tons, whereof exports of Manchurian products 400,000, exports of Siberian products 50,000, coastwise exports 120,000, and railway traffic into the interior, accounted for 290,000 tons. These figures have been absolutely reversed during the war, when imports grew to large dimensions, due to the carrying to Russia of war materials, and exports practically ceased on account of manifold prohibitions.

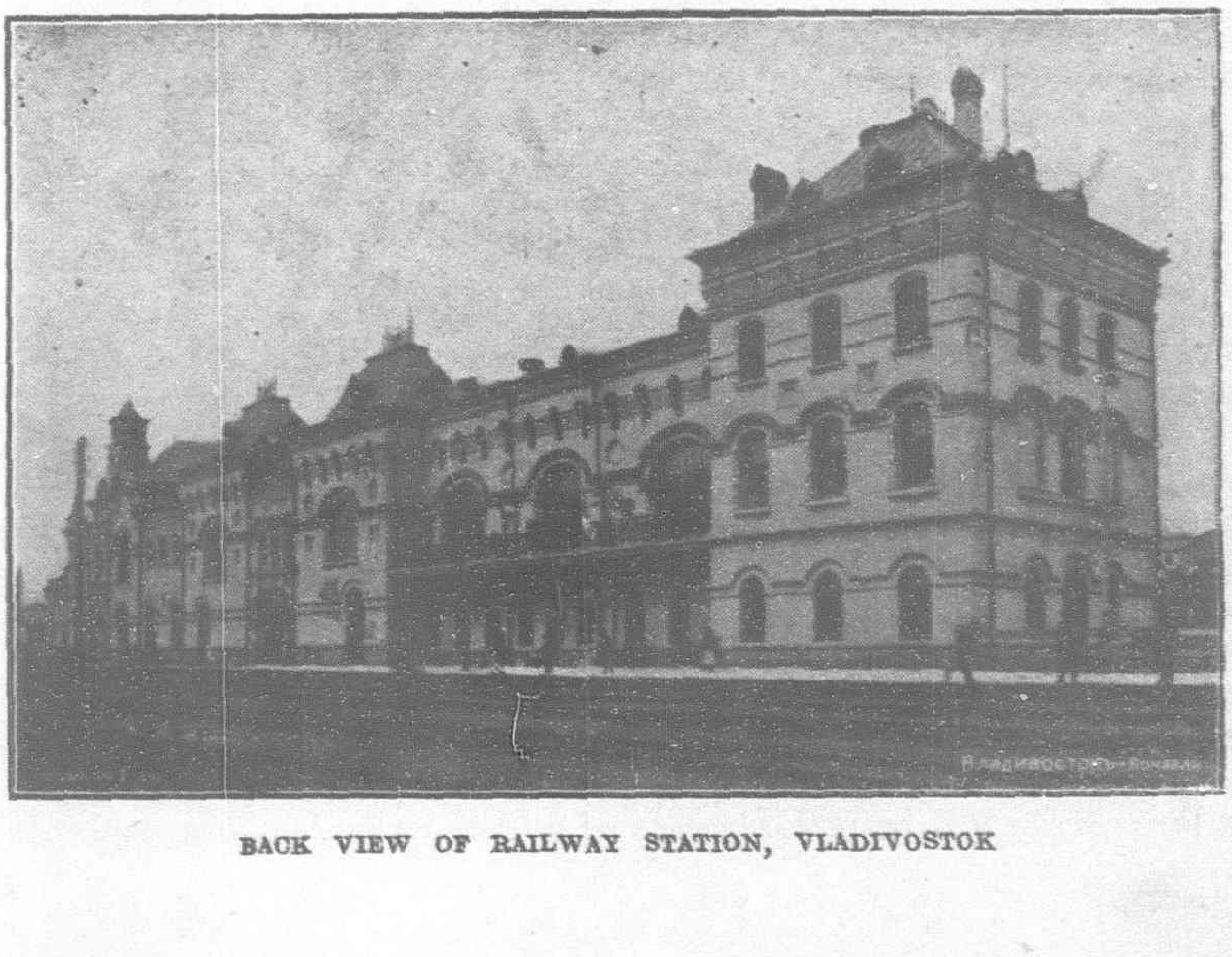
The future trade of the port cannot be estimated now, but it will be doubtless greater than before the war, especially imports, if only on account of the closing of the European frontier of Siberia.

Exports will be slower to develop, consisting mostly of raw materials of heavy bulk, for which the present disorganization of transport is pretty near prohibitive, but still there are articles of smaller bulk which will soon find their way to the Pacific.

There are already many raw materials now at Vladivostok which can be secured for shipment abroad, as for instance: Platinum, tin and concentrates, antimony metal, saltpetre, carbonate of potash, sulphur, skins (cattle, horse, calf, colt, sheep, goats and kid), fur skins, bristles, camel and horse hair, sausage casings, animal ivory and whalebone, butter, beans and lentils, seeds (grass, flax, sugar beet, clover and millet), etc., etc.

## Rich Natural Resources need Capital

But it is not altogether to foreign commerce that we are to look for the promotion of the largest interests in Siberia. This is rather to come from the development of her own rich resources, which seem to have predestined Siberia to become a flourishing and economically independent country. What Siberia needs and what would save her from all the troubles she is going through at this time, is the enlargement of her internal commerce through the development of her mines and manufactories and the utilization of her forests and her water-power. Here foreign capital is badly needed, the Siberian Government being unable to subsidize and to finance big enterprises in the country, it having taken over the finances of the country after the Bolsheviks had been expelled and at a moment of complete bankruptcy. Russian private enterprise is also unable to cope with the situation for the reason that there were no big capitalists in Siberia before the war, the centres of banking and finance having formerly been in European Russia; and besides, the depreciation of the Russian rouble has left most of the rich merchants and manufacturers in an absolutely vague position. The capital, which is at present raised by the Co-operative Societies is being partly invested in new factories of every description, but these societies are not yet able to invest on a large scale, and have other urgent expenses to meet in supplying the needs of the population by the export and import of goods.



BACK VIEW OF RAILWAY STATION, VLADIVOSTOK

## Factories for Railway Materials a Necessity

Thus a rich field is open for the investment of foreign capital in Siberia. The help of foreign capital can be extended to Siberia with the greatest profit to both sides in various ways. The most important, of course, considering the lack of transport facilities, is the building of new railways. A very extensive programme for the speedy construction of the railways which seem to be the most urgently required for the utilization of Russia's resources was under the consideration of Commissions formed in the Ministries of the old Government, and included 65 new railways of a total length of over 20,000 miles. Out of these projected railways a very notable part related to Siberia, and work on a number of them had already been started when the Revolution came and on account of labor troubles and financial difficulties the plans had to be temporarily abandoned. Although lately the construction of the most important of the proposed railways in Western Siberia—such as the South Siberian Railway, a line which will run from Orsk in the Orenburg province to Barnaoul, through the Steppe region, where it will connect with the Altai Railway, and cover altogether a distance of 1,000 miles in length; the Slavgorod-Semipalatinsk Verny Railway, which will connect Western Siberia with Central Asia, also nearly 1,000 miles long, and other small lines—has been partly resumed, the work on them is greatly hampered by the scarcity of supplies required for railway purposes. Whereas, even in ordinary peace times it was difficult to procure all the necessary materials for the construction of Siberian railways in the home country, any supply of such materials from European Russia is now out of the question, and the Siberian Government will have to look to foreign countries for the importation of a large amount of materials and equipment required in order to carry out successfully the programme of railway construction. But construction could be accelerated, and part of the money spent on the transportation of heavy railway materials saved, if, with the help of foreign capital, works and factories were built in the country which would produce, on the spot, all the materials required for construction purposes.

SVETOLANSKAYA ST., THE MAIN BUSINESS STREET, VLADIVOSTOK

## Good Prospects for Industrial Development

There exist in Siberia the best of prospects for the building up of all kinds of new industries which would make use of the material, forest, and fishery resources of the country.

Specialised industries catering to the growing demand of the local population for manufactured goods are urgently needed. Such new industries would provide a home market for the agriculturists in the country and would guarantee that not all the profits would be absorbed in transportation of raw material. Besides, a new era would be brought about in the agricultural districts of Western Siberia, through the provision of adequate cold storage and grain elevator facilities.

The export of butter, meat, and other perishable articles, on a large scale will be possible only if additional cold storage plants are constructed all over the country and along the railway lines, and if refrigerating cars are run in sufficient numbers on the railways.

## Grain Elevators Wanted

On the other hand it is of the greatest importance that assistance should be afforded the peasants in Siberia in warehousing and disposing of their grain through the construction of a large system of grain elevators. Through inadequate storage facilities in the Siberian villages a large amount of grain is wasted every year. A company, which would undertake the construction of grain elevators would not only save the country thousands and thousands of tons of grain every year, but could also conduct this business on very profitable lines through financing the peasants under the security of grain stored in the elevators. The need of grain-elevators for the efficient exploitation of Siberian agricultural products was recognized by the old Russian Government, and a scheme of building elevators under the auspices of the Imperial State Bank in the most suitable centres of the grain-growing districts of Siberia was worked out. There is no doubt that this will be taken up by the new Government as soon as conditions will permit, but the capital required by such an enterprise and the difficulty of obtaining the materials necessary for the construction of elevators on extensive lines will make foreign assistance all the more desirable.

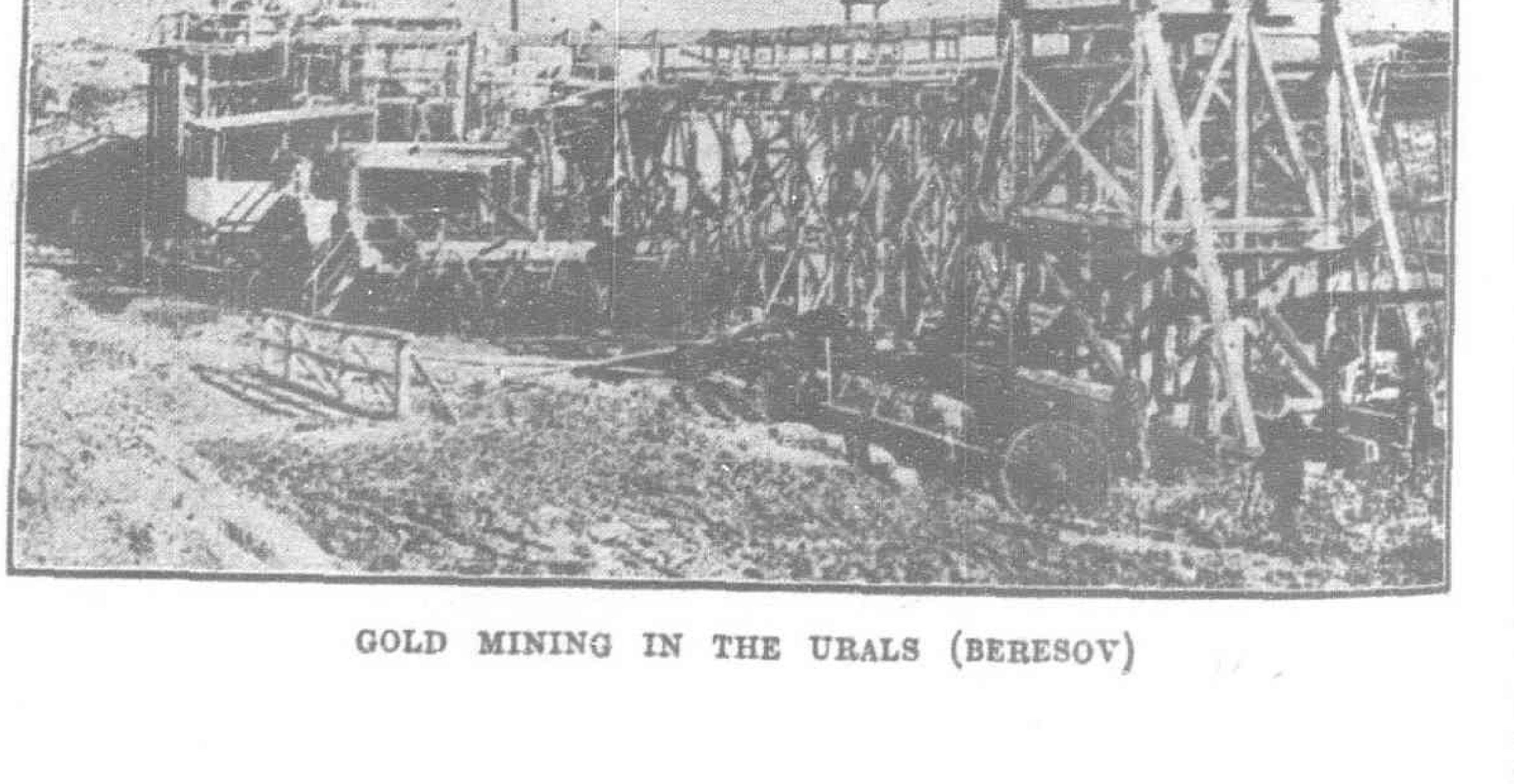
## Mining Possibilities Extensive

A wide field is open for the foreign mining investor in Siberia, if he cares to put capital into these undertakings. The mineral industry is yet in its infancy and is bound to develop enormously as soon as the new laws are passed and State assistance is given to new enterprises. In the past Russian industrialists sometimes received the right to exploit immense tracts of land closed to private enterprise by the stroke of a ministerial pen, while in other cases the grant was given in such a form that even to take advantage of it was out of the question. There were cases where all the fruits of industrial energy were lost because the promoters had not the right to arrange a system of transport.

To create and develop the metal industry in Siberia properly it is indispensable to draw up a whole series of measures, the principal one being the grant of a large, free and smooth road for private enterprise and energy. whereby the State should enter upon the path of financial support to smaller mining industries. At the present time the labor question is acute, and the cost of labor has driven many companies to reduce and even to suspend work.

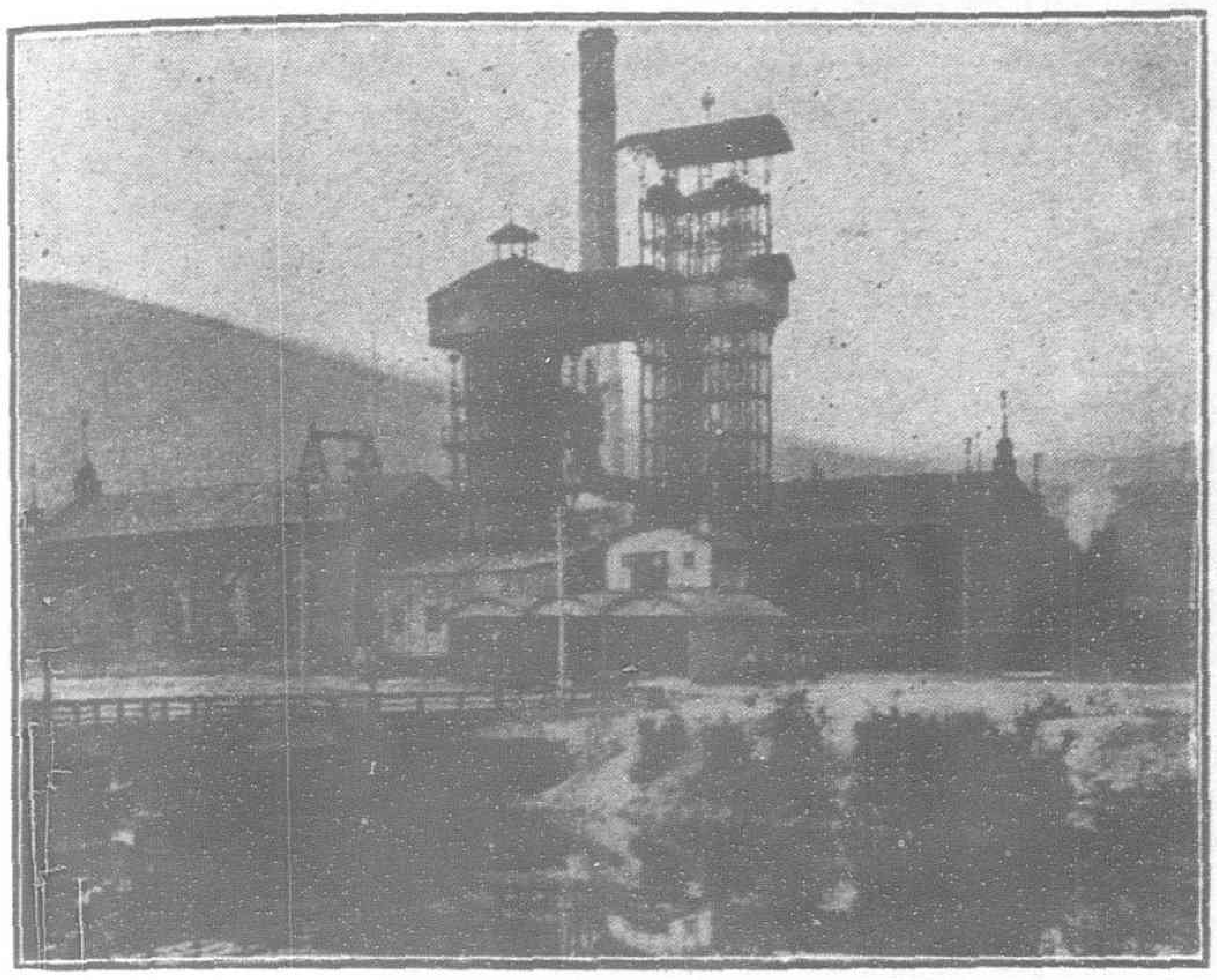
The distinctive feature of the actual position in Siberia is the development and gradual disappearance of small concerns. The exhaustion of the gold placers, especially in the Yenisei gold district demands mechanical methods of exploitation. The application of dredges offers the possibility of working even very poor placers at a profit, but there are no dredge manufacturing works in Siberia, and the application of imported dredges, up to now has been too costly for the Russian concerns.

Any foreigners interested in mining would be well advised to consult the Russian Mining law, and to acquaint themselves in each particular case with conditions as to terms of rental, royalties, etc.


GOLD MINING IN THE URALS (BERESOV)

## Gold

The richest gold mines being worked at present are situated in the regions of the great rivers Amur, Lena, Yenisei, Irtysh and their tributaries, but there are, besides, many territories, as for instance the Kamchatka and Anadyr provinces, which are practically unexplored, and where there are strong reasons to believe that gold is to be found in abundance. The amount of gold mined in Siberia during the two years preceding the war, namely 1912 and 1913 was as follows:—



IRONWORKS IN THE URALS

| Western Siberia. | 1912. | 1913. |
|---|---|---|
| Alluvial gold ... ... | 3,719,33 lb. | 3,249.90 lb. |
| Vein and chemical ... ... | 3,611.00 lb. | 3,972.10 lb. |
| Eastern Siberia. | | |
| Alluvial gold ... ... | 95,366.51 lb. | 101,396.88 lb. |
| Vein and chemical ... ... | 1,344.40 lb. | 1,841.61 lb. |

The richest mines of Siberia are situated on the upper and the lower parts of the Yenisei river. Especially a vast amount of gold bearing gravel is found in the hilly sections of the Yeniseisk province where the river emerges from the Sayan Mountains, around Minussinsk, and in the region of a low complex group of mountains below the mouth of the Angara river. The geological formation of the deposits consists generally of slate rocks and the thickness of gold-bearing strata varies from 14 to 21 feet and their extent from 0.5 to 35 miles, the proportion of gold being different according to the depth of the deposits. The Yakutsk province, which is well provided with alluvial and vein gold especially on the Vitim plateau and along the Lena River, ranks second. The richest gold mines in Siberia are to be found in the northern portion of the Vitim plateau. There is gold in the Amur region, where the gold mining industry is the chief economic feature of the country, and there are gold mines in Transbaikalia, in the steppe region around Semipalatinsk, and on the Ural.

Many of the Siberia gold deposits are worked with dredges, others in a more primitive way, but altogether only a small part of the gold-bearing territory is touched at all, and if the attitude of the new Government in Siberia proves to be different from the former, permitting foreigners to operate gold mines on a royalty basis of from 3 to 10 per cent. of all the gold obtained, and if for the working of reef gold efficient machinery will be imported, Siberia may well become a second Alaska or Transvaal.

It appears from unofficial statistics of the year 1914 that in the preceding year 664 permits were taken out for gold prospecting in Siberia, which entailed the employment of 30,000 workmen. Great activity is being displayed in prospecting for gold in the Amur province, and since the Amur Railway has been completed the output has greatly increased.

A list of the principal Russian and foreign gold mining companies operating in the country has been taken from official reports, and is given in the next column, showing the capital invested by them.

| | | |
|---|---|---|
| 1. | Russian Gold Co. ... ... ... ... ... ... ... | Rs. 7,125,000 |
| 2. | South Urals Gold Co., "Russia" ... ... ... ... | ,, 300,000 |
| 3. | North Eastern Siberia Co. ... ... ... ... ... | ,, 3,000,000 |
| 4. | Troitzk Goldfields, Ltd. ... ... ... ... ... ... | £625,000 |
| 5. | Tushetukhanovsky and Tzetrenkhanyuvsky Aimaki ... | Rs. 1,800,000 |
| 6. | Alexandrovsky Gold Co.... ... ... ... ... ... | ,, 80,000 |
| 7. | Amour Gold Co. ... ... ... ... ... ... ... | ,, 3,000,000 |
| 8. | Dredge Gold Co. ... ... ... ... ... ... ... | ,, 500,000 |
| 9. | Trans-Ural Mining Co. ... ... ... ... ... ... | ,, 4,500,000 |
| 10. | Societe Anonyme des Mines d'Or du Kochkar ... ... | ,, 4,500,000 |
| 11. | Industrial Co. ... ... ... ... ... ... ... | ,, 7,000,000 |
| 12. | Lena Gold Mining Co. ... ... ... ... ... ... | ,, 11,100,000 |
| 13. | Lena Goldfields, Ltd. ... ... ... ... ... ... | £1,957,000 |
| 14. | Orsk Goldfields, Ltd. ... ... ... ... ... ... | £920,000 |
| 15. | Borovinsk Gold Co. ... ... ... ... ... ... | Rs. 844,308 |
| 16. | Verchinsk Gold Co., Ltd. ... ... ... ... ... | £1,100,000 |
| 17. | Central Ural Gold Co. ... ... ... ... ... ... | Rs. 1,000,000 |
| 18. | Toumninsky Gold Co. ... ... ... ... ... ... | ,, 1,000,000 |
| 19. | Fedorovsky Gold Co. ... ... ... ... ... ... | ,, 2,000,000 |
| 20. | Vagransky Gold Mining Co., Ltd. ... ... ... ... | £360,000 |
| 21. | Siberian Gold Dredging Co., Ltd. ... ... ... ... | £200,000 |
| 22. | Siberian Proprietary Mines, Ltd. ... ... ... ... | £135,000 |
| 23. | Kazakavsk Gold Mining Co. ... ... ... ... ... | Rs. 1,000,000 |

### Ural Output in 1912.

The Ural gold region, including the Perm, Viatka, Ufa, Orenburg, and Turgal governments, produced about 265,966 oz. Troy of gold. The most productive were Miask, Southern Ekaterinburg and Orenburg (kvarken gold mines). The leading position was occupied by the Miask district, where are situated the famous Kochkar goldfields that have been exploited since 1844, and have yielded up to the present over two million ounces of gold. The original gold deposits of the Kochkar fields show gold quartz veins with gold, arseno-pyrite, pyrite and galenite, alluvial gold placers are also to be found here.

The Ural gold smelting laboratory, under the control of the Mining Department, produced 191 poods in 1912 as contrasted with 132¼ poods in 1911. This increase was effected in the northern part of Ekaterinburg and in Orenburg.

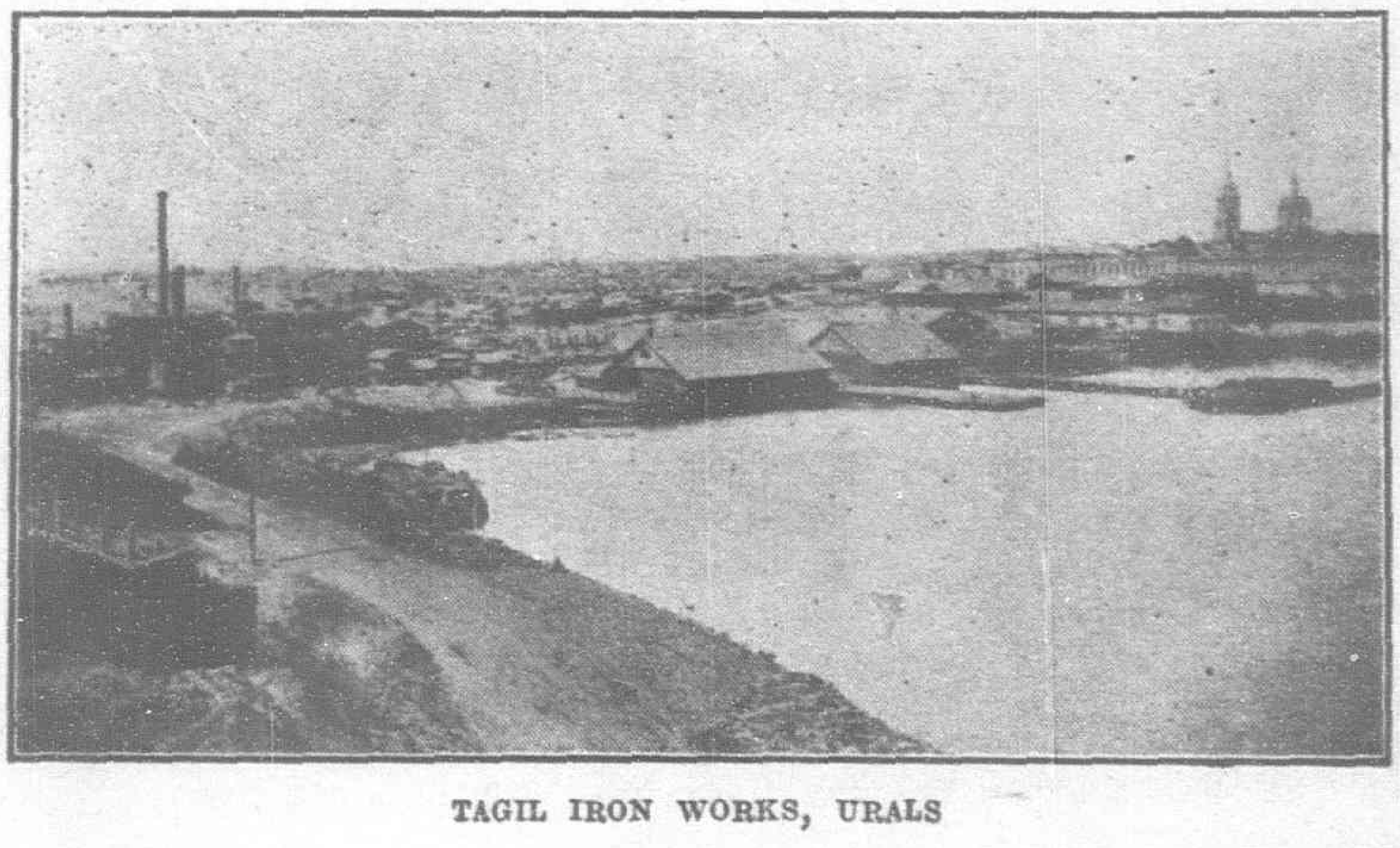
### Western Siberia.

The Western Siberia gold area includes the following districts: (1) Tomsk; (2) Krasnoyarsk-Achinsk; (3) Southern Steppes; (4) Yenisei; (5) Altai; (6) Minusinsk and (7) Northern Steppes. In the first four of these districts alluvial gold mining flourished for many years, but now, in many places, the production has fallen to a few poods, and dredges alone are doing the work. In the Tomsk district there is said to be a yearly decline in the production of gold. Throughout the whole area it may be said that the solid maintenance of the gold mining industry refers only to the increase in the exploitation of reef gold.

The reef gold-mines now being worked are roughly enumerated as follow: (1) The group of Marinsk mines; (2) the Bobrikulsk Ploschad gold-mining group, in the Tomsk mining district; (3) the Bogomdarovanny group, in the Krasnoyarsk-Achinsk mining district, and (4) the Southern Steppe ore deposits, including the mines of Mousina, Konioushov and others. There are many of lesser value—such as the Saralinsk mines, in the Krasnoyarsk-Achinsk district in the government of Yenisei, and others.

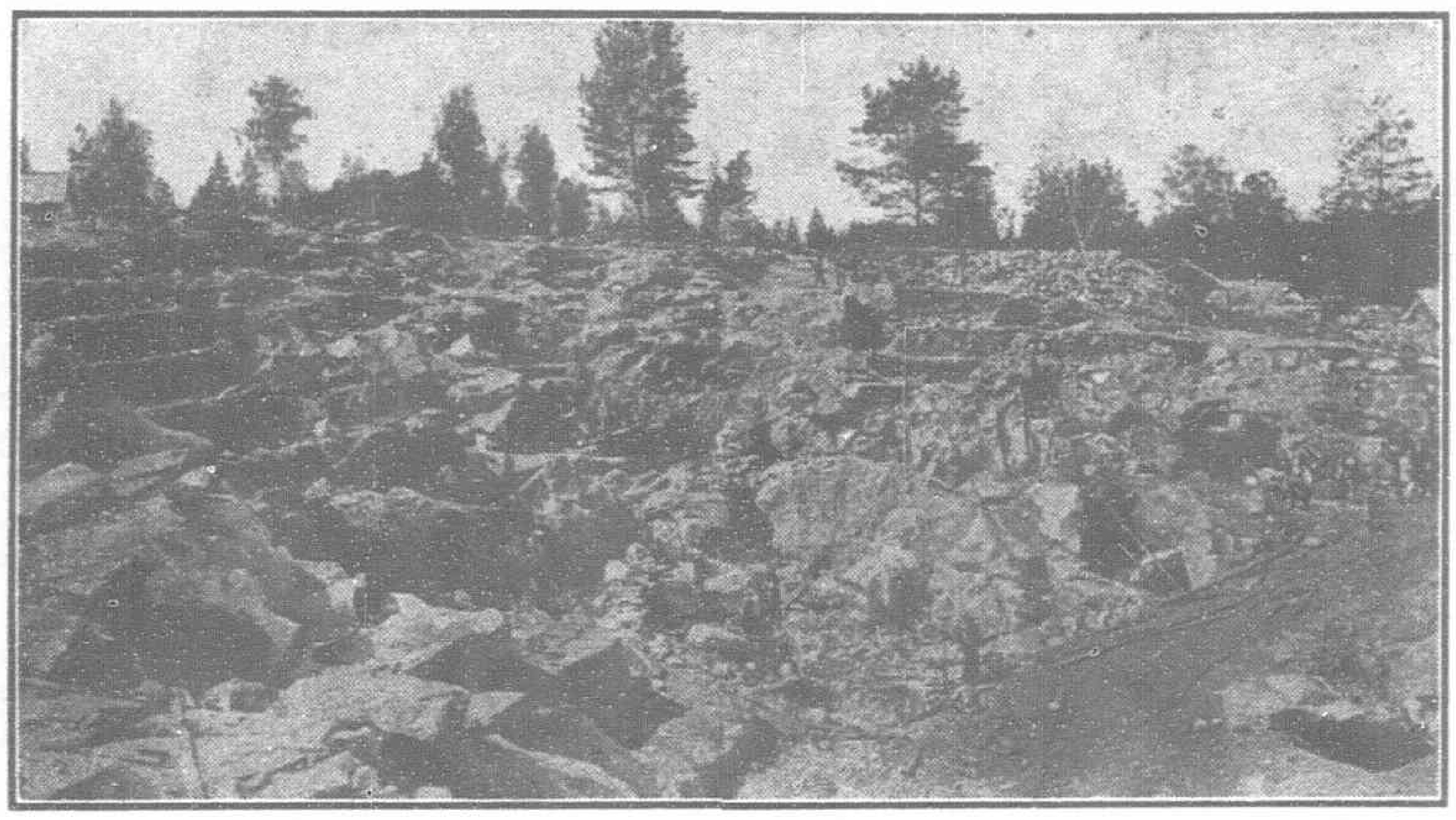
### Eastern Siberia.

The chief centre of Russian gold mining is in the Vitim mining district, where the gold mines of the Lena Gold Company



TAGIL IRON WORKS, URALS

alone produce 800 poods a year, i.e., about 25 per cent. of the total production of the country. The history of gold mining in the Lena district shows that the original richest alluvial was found on the Olekminsk system, now the Olekminsk mining district, in the year 1843, but owing to the gradual impoverishment of the deposits and the transfer of capital into the business of the Vitim district, with very rich and immense deposits, the Olekminsk district has taken second place in the gold mining areas of Siberia. The railway connecting the River Lena with the Siberian trunk railway will assist the development of the Olekminsk district. The largest chain-bucket gold dredge* ever built was shipped from America in 1918 for the Lena gold fields. It has an estimated output of 310,000 cubic yards a month and can work to a depth of 80 feet below the surface of the water.


MARBLE QUARRY IN THE URALS

The Orsk Goldfields Co., with a large central electric station for the provision of power on the placers, has begun dredge work on the Sretensky goldfield. This company is also working the Pokrovsky gold field with a steam excavator.

In the Nerchinsk district alluvial has been washed with good results, but in many parts of Transbaikalia gold placers are working very poorly in respect to the output of gold, because of the small quantity of water in the rivers.

The production of gold in the Maritime Province of Eastern Siberia during the year 1911 amounted to about 41,000-oz., and showed an increase of 13,000-oz. over the preceding year. This increase in the production of gold was accounted for by the fresh exploitation of the Okhotsk gold placer, leased to the English company, the Orsk Goldfields, Ltd., which is operating on this ground exclusively with dredges driven by electric motors.

The following are the figures of pure gold entered in the State and private gold laboratories, including the gold brought privately:

| Year | Total for the Ural and Siberia in poods and funts |
|---|---|
| 1906 ... ... ... ... ... ... ... ... | 2,262.19 |
| 1907 ... ... ... ... ... ... ... ... | 2,288.02 |
| 1908 ... ... ... ... ... ... ... ... | 2,578.03 |
| 1909 ... ... ... ... ... ... ... ... | 2,975.00 |
| 1910 ... ... ... ... ... ... ... ... | 3,275.38 |
| 1911 ... ... ... ... ... ... ... ... | 3,176.04 |

### New Fields.

Interest in the Siberian goldfields has begun to increase considerably. All over the Urals and Siberia capitalists and engineers have been seeking for the last few years new gold placers.

On the western section of the Amur Railway, the construction of which has been recently finished, many localities with alluvial gold have been discovered.

In the basin of the river Iman, Ussurisk district, placers have been discovered with a gold content valuing £1 per ton of gravel. The Empire system of boring has been adopted in the extensive investigation of this new gold region, and it is expected that the whole system of the Iman River will become the scene of busy gold exploitation.

A number of expeditions have investigated the rivers Magis, Vilyua, Nai, Zhua, Lower Shara, Maly Patom, and others, everywhere with good results, gold veins and gold bearing gravel having been found in numerous places.

## Silver

Very little has been done as yet towards the working of the silver mines in Siberia, owing to the depreciation of silver before the war. Over 3,000 deposits are known to exist in the Altai district, of which not more than about 30 have been worked. The country north of Semipalatinsk is also rich in silver. Some important silver and lead mines exist in Transbaikalia. There are deposits of silver mixed with iron 200 miles from Bobel-Odjal, in the district of Khabarovsk, and also between Bobel-Odjal and Vladivostok, about a mile from the sea. The production of silver was growing in the Urals. Several English houses were engaged in the industry. Besides the Kyshtim and A. Poklevsky Kozel factories, the Verkh-Isset factories of the Northern Ekaterinburg Mining district were to some extent engaged in the production of silver in 1911. In the Western Ekaterinburg Mining district, during the production of electrolytic copper in the Nishni-Kyshtim Electrolytic factory, 177 poods 8 funts of pure silver was obtained. The Urals as a silver producing district stood first in Russia, and in 1909 the relatively high figure of 452 poods was reached there. The second is the Altai district, then come the Nerchinsk and Karkalinsk districts.

## Platinum

Russia has produced up to the present the bulk of the world's supply of platinum, the output being derived from alluvial deposits in the Urals. Many dredges are at work in the Ural district. The industry is lacking in many respects, besides which the mine-owners are hampered for want of capital, and extensive smuggling prevails.

The most productive districts for platinum are South Verkhotur, Perm and Tcherdinsk. The output in some districts is markedly decreasing, owing to exhaustion of the mines now being worked. In 1912 the output was as follows:—South Ekaterinburg, 2 poods 24½ funts; Tcherdyn, 11 poods 28½ funts; Perm, 73 poods 19 funts; North Verkhotur, 224 poods 23 funts; total 337 poods 8 funts. The output was 15 poods 9 funts less than it 1911. New platinum placers have been found in different places in the Urals and in Siberia, and just before the war started a number of new companies were formed for the working of platinum mines, of which the Tagil Platinum and Mining Company, the Platina Company, the Aktai Platinum Company with Belgian capital, the Sosva-Ural Company were the most important.

## Copper

The mining districts of Novo-Nicolaevsk, Tomsk, Barnoul, and Kouznetsk contain considerable deposits of copper, as does the territory situated east and north of Semipalatinsk. There are also deposits north of Vladivostok. The production of copper in Siberia in 1910 amounted to about 3,210 tons, the whole of which came from Western Siberia. The copper mining industry of Siberia is also of rather recent date, the whole output of copper

PLATINUM WORKS IN THE URALS

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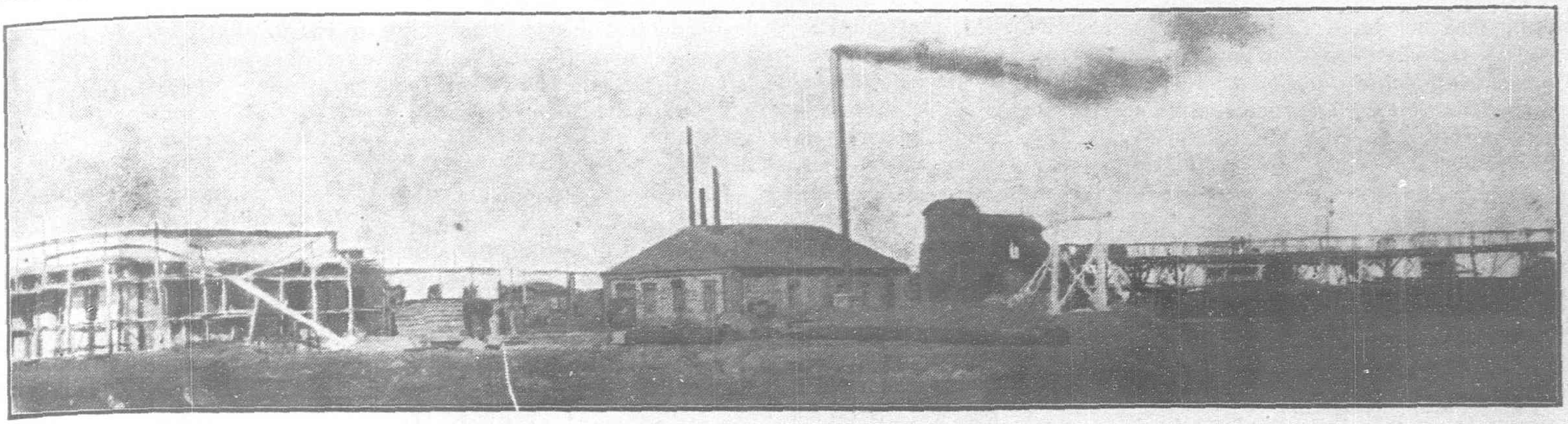
* See Far Eastern Review, November, 1918, page 444.



COAL MINE AT EKEBASTUS, SIBERIA

in Siberia in 1901 having been only 355 tons. The output of copper in the Urals in the ten years from 1901 to 1910 increased from 3,501 tons to 10,791 tons and before the war Russia produced nearly all the copper she required. The production for 1912 of copper in the whole Russian Empire was 32,500 tons, out of which amount 46 per cent. came from the Urals, 31 per cent. from the Caucasus and 25 per cent. from Siberia. The premier copper producing concern in the Urals during 1912 was the Kyshtim Co., the second being the Bogoslav. Another important company was the Demidov. The Kyshtim Company tripled its production in 1912 compared with 1911. The Syssert Mining Works control extensive and rich copper deposits in the Urals—the Goumeshevsky mines. These contain malachite, red copper, pyrite, cupreous selenium and native copper. The reserve of ore in these mines is immense.

The increased production of copper in Siberia was due mostly to the largest mining concern, the Spassky Co., in the Akmolinsk district, which is in British hands.

## Coal

Coal is to be found in many places in Siberia, but is consumed locally. In coal-mining there is, however, a big future, with opportunities for foreign capital. As wood for burning is becoming dearer year by year, the demand for coal is steadily increasing. In spite of the long distances over which it must be carried, coal comes a little cheaper than wood. With up-to-date mining methods the price would undoubtedly be considerably reduced and the demand would increase accordingly.

The chief coal mine worked at present in Siberia is that of Kuznetsk in the upper waters of the Tom river, a tributary of the Obi river. This coalfield covers an area of about 280 miles in length and 120 miles in breadth. The coal obtained is very good in quality, having good heating properties and about 80 per cent. of carbon. The new Altai railway has done very much towards the development of this mine, tapping the field at the centre.

There is an area of about 60,000 square versts between the Salair and Kousnetzka ranges, where coal outcrops. The area has been geologically investigated, and coal has been found 140-ft. thick. It is said to be fine cooking coal, and there are millions of poods in reserve The position possesses one of the rare advantages of having abundant iron ore in the proximity. Northwards, near the Salair range, there is red and brown ironstone, while southwards, on the river Telbess, near Sucharinsky, there is magnetic ironstone estimated to measure hundreds of millions of tons. The monopoly for the extraction of coal in this district was given by the old Government to Mr. B. F. Trepov, representative of the syndicate of French Bankers who are interested in the construction of the Southern Siberian Railway.

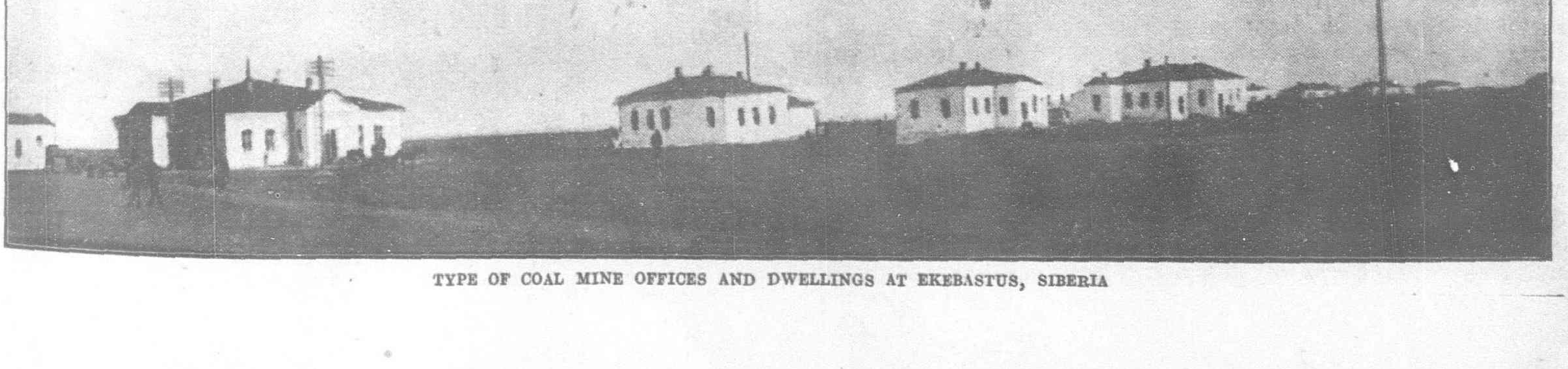
In the Maritime Province of Eastern Siberia the Soukhan coal deposit is of great importance, as it furnishes coal to the Government establishments of Vladivostok. Another district where coal is found in this province is that of the Manhugai, near the Amur Gulf. Here, however, the production hitherto has been very limited not exceeding 3,000 to 5,000 tons, and it can hardly be said, until increased, to have any industrial significance.

The total quantity of coal extracted in the Maritime Province may be estimated at about 200,000 tons a year. The brown coal deposits are very numerous, and to a large extent are well known, and the coal is produced at a point about 20 miles from Vladivostok, and near Nikolsk Ussurisk. Here there are mines yielding about 150,000 tons a year: investigation of the coal in this district has been imperfectly carried out. The consumption of coal in the Maritime Province amounts to about 400,000 tons, divided principally between the Marine Department, the Military Department, the Russian commercial fleet, foreign commercial fleets (except the Japanese), the Ussurisk Railway and private consumption. Notwithstanding the reserves in the country, the Japanese imported over 30,000 tons, a year, and this movement has had the tendency even to increase.

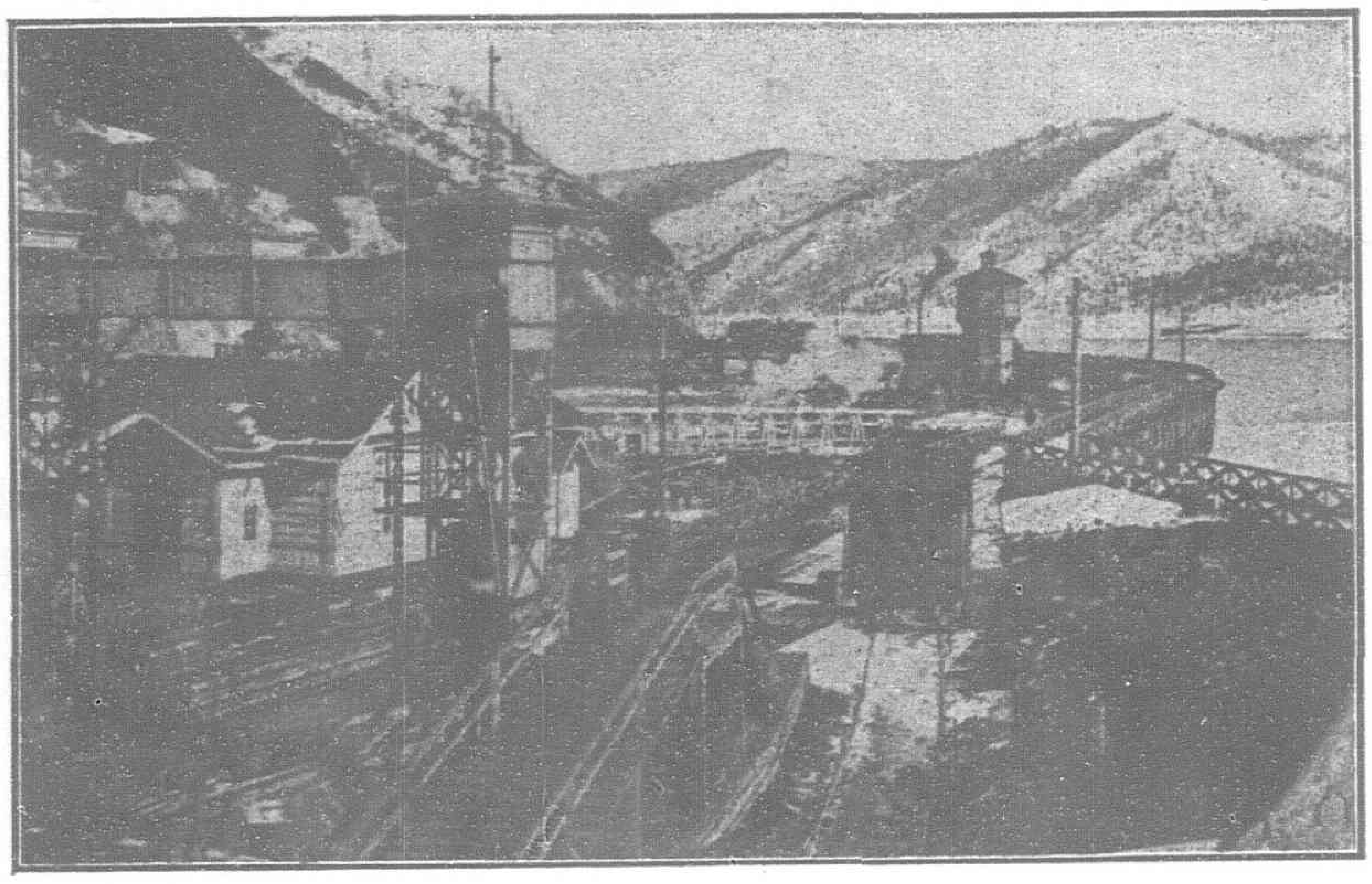
The best coal mines in the whole Pacific are the Saghalien Mines—which are renowned in respect to wealth of deposits and quality of coal. The coal yields 71.01 per cent. of coke, and it compares with the best varieties of English or Scotch coal, being suitable not only as a steam raiser, but also for the coke it will yield for use in blast-furnaces and for other metallurgical purposes. Its heat productivity is given at 7,735.27 calories. The actual production was between 33,000 and 50,000 tons a year.

## Iron

Among the regions in Siberia richest in iron ore may be mentioned those districts which lie between Novo-Nicolaevsk, Tomsk, Barnaoul and Kousnetsk, where there is also a good deal of copper and coal. Another district lies north of Semipalatinsk. Iron ore is also to be found in various places in the government of Irkutsk, especially near the river Boukhahova and in the Toukin Mountains. There are a good many deposits too in the



TYPE OF COAL MINE OFFICES AND DWELLINGS AT EKEBASTUS, SIBERIA steppe region. Iron ore has been discovered during the construction of the Tyumen-Kourgan Railway, in the government of Tobolsk. Immense quantities of iron ore exist, as yet untouched, in the Maritime Province, particularly north of Vladivostok between the Olga and Vladimir Bays. The deposits here lie about ten miles from the coast. The bays are well sheltered, so that Saghalien coal, if necessary coke, could be easily brought there. Only lack of capital has prevented smelting works from being erected. No doubt the authorities would have erected works on their own initiative, but only 32,000 tons of iron and steel are required for the local needs, and it has been found more expedient to procure it from outside. A great impetus would be given to the iron and steel industry if more facilities were granted for the coasting trade and premiums granted for shipbuilding and navigation, etc.



SIBERIAN RAILWAY : LAKE BAIKAL STATION

A group of capitalists has acquired the concession of the Tulbess iron mines in the Altai Mountains, Kouznetsky district, where there are rich deposits of magnetic iron ore, assaying 89.19 per cent. oxide iron, 1.92 per cent. protoxide of iron, 0.10 per cent. of manganese, 0.69 per cent. of sulphur anhydride, and no phosphorus. The concessionaires propose to erect ironworks. The Siberian market can take up to £4,000,000 value of iron goods per year, whilst all the ironworks of the area produce no more than £5,000 value a year in iron products.

## Lead

The richest deposits of spelter and lead ore in the Far East are found in the Olgensky mines near Vladivostok. All the ore produced before the war at the Olgensky mines was shipped by way of the Pacific to Germany. Deposits of lead have been found in the Syssert district, and an investigation made on the shore of the Arctic Ocean, Dolgy Bay, showed six veins, each of which may yield 147,000 tons of ore, or a total of 882,000 tons. There are also deposits of lead in the Altai, in the Nerchinsk district, and in the Maritime Province, but their distance, the absence of fuel and of ways of communication make it impossible for the present to use them as a basis for establishing a lead industry.

## Antimony

The important antimony deposits in the Urals, at the Akhatoshevsky mines, have been carefully investigated. Antimony is found also in the Urals near Verkhevinsky, and also at the Blagodat silver-lead mines, ten miles north of the town of Beresov. Antimony is known in Siberia. In the government of Yenisei it is found in gold placers on the river Isikium, in the Avginsky district, and also on the rivers Malaya Seiba and Amyl, in the Minussinsk district. Antimony ore is present in the Transbaikal district, where it is found in the Algachinsky mines and near the Kadainsky mine. In this province there are large reserves of grey antimony ore at the Pokrovsky silver-lead mines, and considerable waste heaps of this ore, which have not been either sorted or tested, are found lying on the mining plot. In the Amur Province, near the station Zagibovoi, there are antimony deposits stretching along the crest of the mountains. This antimony vein is up to 3½-ft. thick.

## Asbestos

Asbestos is found in the Urals as in Siberia. The Ural asbestos in the Ekaterinburg district is of the same high quality as that of Canada and of Piedmont. In this region many mines are worked, as the Voznesensky, Zayanovsky, the Govorikhinsky, the Russo-Italian Asbestos Company's mines, have in the six years from 1906 to 1911 doubled their annual output, bringing it to about 16,000 tons.

Asbestos is exploited in a number of mines in the Government of Irkutsk, of Yenisei, Tomsk, Semiretchensk and in the Transbaikal province.

## Pyrites

Very rich deposits of pyrites are found in the Urals, in mines which are only partly exploited, there having been in Russia only a very small demand for sulphur, on account of the lack of industries. But the output of pyrites could reach enormous figures if the demand should increase.

## Zinc

Rich deposits of zinc ore have been worked in the Maritime Province, near to the Bay of Tetiukh, by the Tetiukh Co. The Irtysh Corporation of London operate mines at Riddersk, 63 miles from the Irtysh river, in the Altai district, the ore being conveyed on barges to Voskresensky, and thence by rail to Ekibastus,* where coal is mined, and there smelted.

## Tin

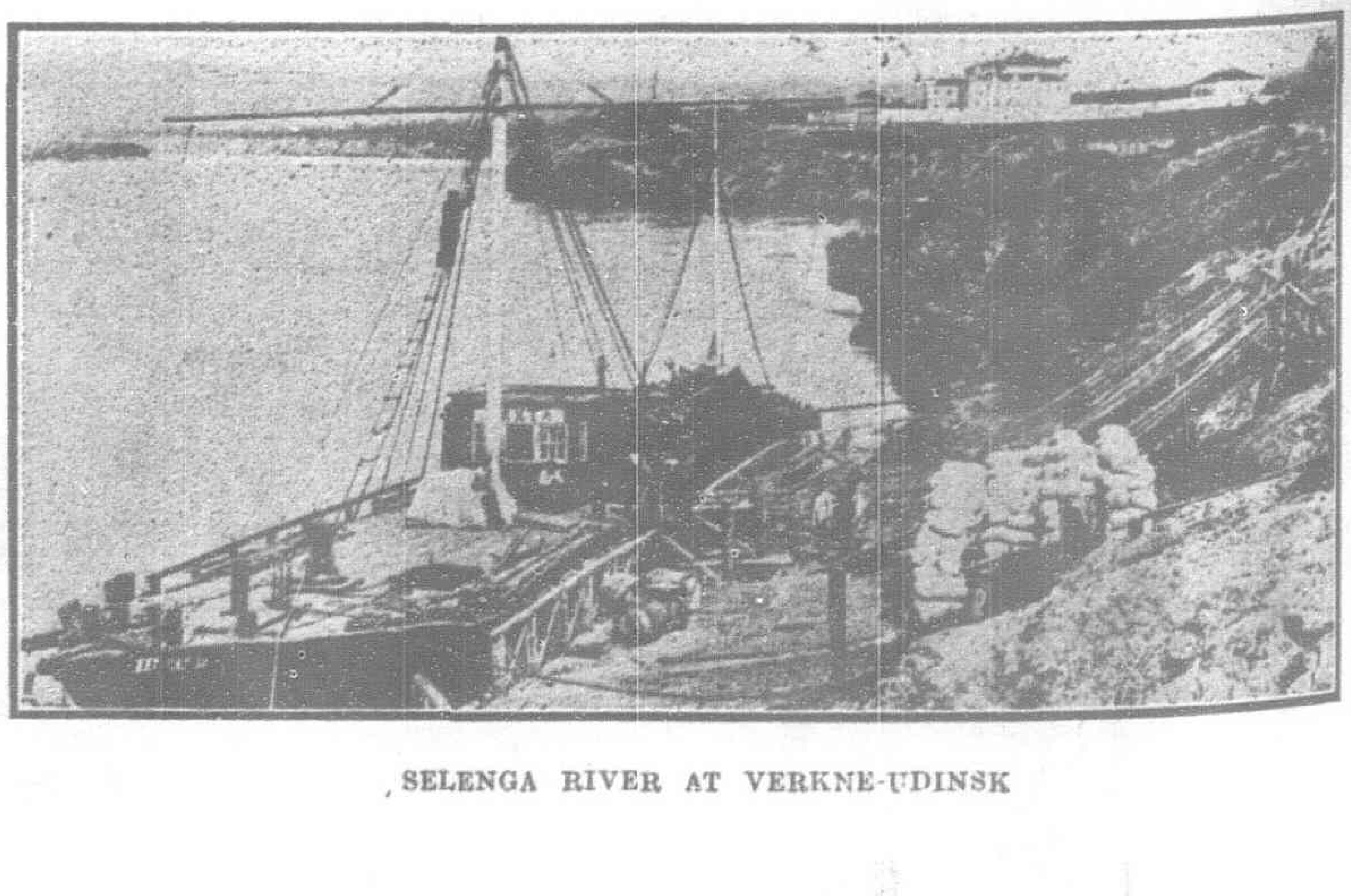
There are tin mines in the province of Transbaikal, Nerchinsk district, near the station Olovyanka, where tests made with 1,000 cubic feet from the placer are said to have yielded on washing 25,000-lb. of metal. The working of these mines has been undertaken recently by the Transbaikal Tin Smelting Works, and has the best of prospects, as up to the present Russia was importing all her requirements of this metal.

## Other Minerals

The deposits in Eastern Siberia of uranium and wolfram have been partly discovered, but none of them have been worked yet.

Semi-precious stones exist in abundance in Western and Eastern Siberia; also marble, of which an entire mountain has been found near the bay of Olga, in the Maritime Province. The question of building a railway has been under discussion, but has not been carried through, like most of the enterprises in Siberia, through want of capital.

Before closing this article I would like to impress upon the foreign shipping concerns the possibilities of opening up new communications between the outside world and Siberia.



SELENGA RIVER AT VERKNE-UDINSK

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* See FAR EASTERN REVIEW, June, 1918.

## Connexions Via the Northern Seas

Although, generally speaking, the Siberian rivers running northwards afford no opportunity, for the present, to export raw materials from Siberia to foreign countries, the Arctic Ocean, into which they flow, being considered unnavigable, attempts have been made for ships to enter the estuaries of the Obi, the Yenisei and the Lena rivers with the object of establishing commercial relations between the outside world and the interior of Siberia, some of more or less recent date. There was a geographical society in Petrograd, headed by the Countess Shuvaloff, which, before the war, organized several arctic expeditions and spent large sums for the exploration of the northern borders of Siberia and of the currents and navigation possibilities of the Arctic Ocean. In 1914 a ship, loaded with valuable merchandise, was sent by them from Odessa to take the sea route through the Behring Sea and to enter the Lena river estuary, where the goods would have been transferred to river steamers for transportation up the river to Yakutsk and to the Lena gold fields. When war broke out this steamer had reached Vladivostok, and it was not thought profitable to send her further under the new conditions which had arisen.

But that this route is an actual possibility has been proved by Russian Volunteer Fleet steamers, which have steamed to the Lena estuary on several occasions before the war. If a Canadian concern cared to establish a regular sea route from Nome to the Lena estuary, the cost which such an enterprise would involve would be covered in a very short time by the profits made on goods sold at Bulun and Yakutsk on the Lena river, where at present no manufactured articles can be obtained even at the highest prices.

Two other projects of this kind are the All-Sea Yenisei and the All-Sea Obi routes, with the aim of stimulating the commerce between Central and West Siberia and Western Europe by the Arctic Sea.

In the summer of 1918 the Allies bought in Western Siberia a great amount of grain with the object of bringing it to Archangelsk by the sea route. The grain was shipped down the Obi river on river steamers and on barges, and had to meet in the estuary of the Obi river seven sea-going ships, sent to a rendezvous there by the Allies. Unfortunately, the whole enterprise was decided upon too late in the year, and only one French steamer went back with a full cargo. The rest of the ships, not daring to cross the Kara Sea, returned to Archangelsk without reaching their destination.

KRASNOYARSK—JUNCTION OF YENESEI RIVER AND TRANS-SIBERIAN RAILWAY

In 1912 the Siberian Company—founded with Norwegian, English, Russian and Siberian capital—was formed to endeavor to open up a service viâ the Kara Sea and the Yenisei. A Norwegian steamer named the *Tulla* was chartered but had to return because of the ice. Laden lighters were taken to the mouth of the Yenisei and waited in vain, customs officers travelling from Irkutsk, a distance of 1,800 miles to examine the expected incoming cargo.

In 1913 the Company financed a second expedition, the history of which Dr. Nansen has given in his book "Through Siberia."

TYPICAL AMUR RIVER VILLAGE

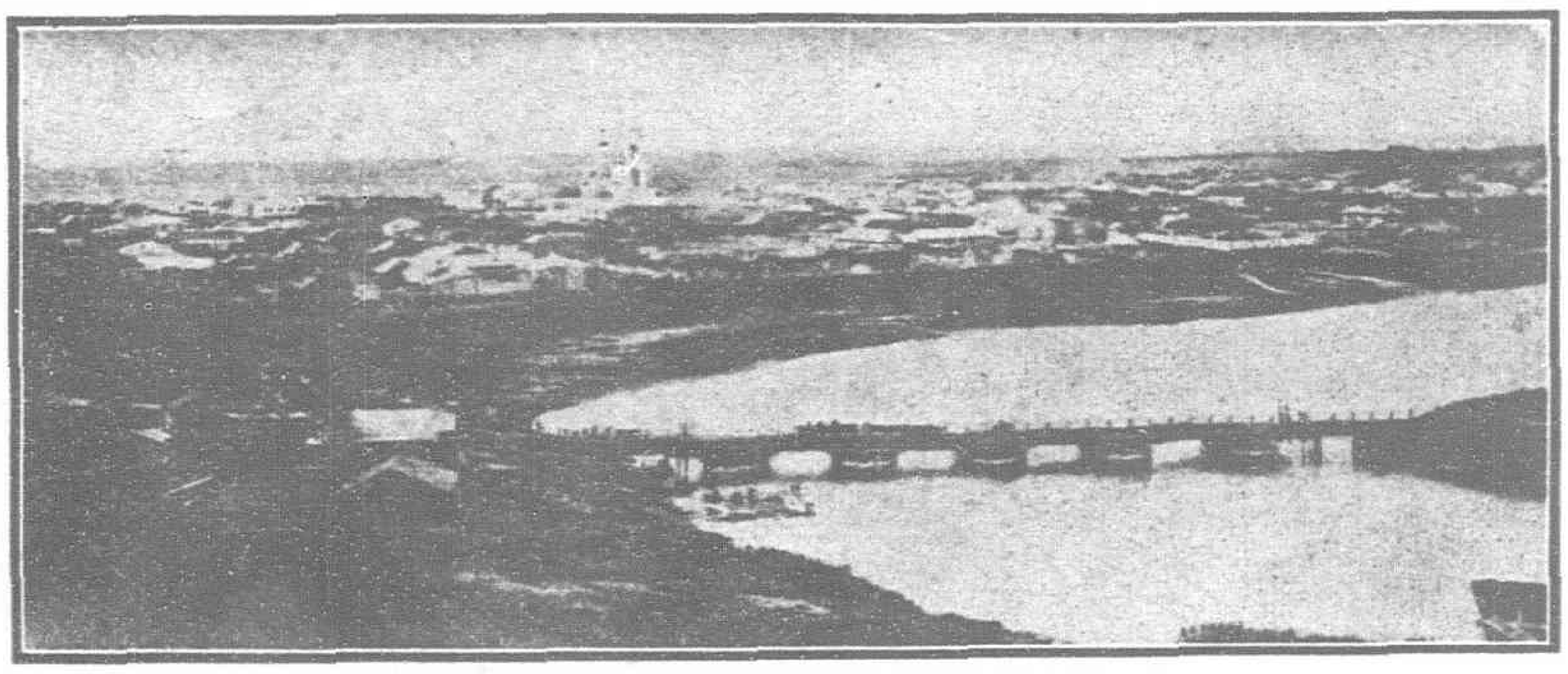
The steamer *Correct*, laden chiefly with cement for the Siberian Railway, sailed from Tromso on August 5 and successfully navigated the ice, reaching the estuary of the Yenisei on August 25—"a huge, broad mass of water . . . . which gives one the feeling of being at the entrance to one of the great water arteries of the world." She met the river steamers and lighters sent to take off her cargo and provide outgoing cargo on August 28, the latter being at the destination one day before the *Correct*. Dr. Nansen continued his journey up the Yenisei to the Siberian Railway and thence to Vladivostok, returning by the Amur line to Europe, the *Correct* making her way safely back to civilization.

Navigation of the Kara Sea to the Obi and the Yenisei has been going on for centuries. How early the sea route became known is not recorded, but in 1620, navigation by this route was forbidden by the Tsar of Russia, Mikhael Fedorovich. After 1860 many voyages were made, the ice conditions being liable to great variation from one year to another, though, as Dr. Nansen points out, the general conditions have changed very little in 333 years since the first English vessel penetrated into the Kara Sea in 1580. Nansen urges the thorough investigation of ice conditions with aeroplanes or motor-boats. Ice is the only obstacle in the way of establishing regular trade on this route. While the estuaries of the Siberian rivers are generally open for about two and a half to three months in the summer, the Kara Sea, through which a ship must pass on its way to Western Europe, is only free from ice floes for a few weeks. But still this leaves sufficient time for ships to make one to two voyages from Novaya Zemlya, where a port of transhipment could be established, to the estuaries of the Siberian rivers, from where the cargo could be carried by river steamers during the three months that the water is open. The number of such river steamers, plying on the great Siberian rivers, was increasing rapidly before the war, and the companies owning them have made a great deal of money during recent years. This is also one of the industries which promises to develop greatly after conditions settle down, and it will be possible to build new steamers and obtain all the necessary equipment.

## A Land with a Lure

In this article I have but briefly sketched conditions which could well be divided into distinct subjects, any one of which could be developed into a book of no mean size. I have made the article general in its scope simply to give at one reading a glimpse of the enormous possibilities which exist in a huge territory very little known. In the past the conception of Siberia generally held has been that of a frigid land where unhappy prisoners have been driven by tyrants to perish in the freezing snows or work out their lives in the mines or inhospitable Arctic regions. It is a wrong conception entirely, for Siberia has immense tracts of smiling lands, great forests, great rivers, and a stored wealth of minerals at present unestimated. Altogether it could sustain a nation of industrious people in the lap of prosperity, and some day it will. The regeneration of Russia which is sure to come will mean the development of Siberia. Nansen described it in the subtitle of his work as "The Land of the Future," and those who know the great territory know what inspired the prophesy. Siberia is a land of great horizons, of illimitable possibilities;

such a land which lures the pioneer, which makes a race settling in it virile, independent, and powerful, provided it develops under a free government. The lure of Siberia will influence the world once it is opened, and that it will be opened in the very near future is as certain as anything can be in this newly awakened universe: that it will develop magically is also a foregone conclusion because, unlike other regions of the kind, it will start off with the world's highly organized applied science to aid it—the machinery, the power driven vehicles, the aeroplane, the wireless telegraphy, and the hundred and one remarkable inventions bestowed upon this torn world in recent years.



PETROPAVLOVSK AND THE RIVER

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# Economic Centres of Siberia

At present the centres of economic life in Siberia, the goods-distributing stations and points from which raw products are transferred, do not coincide with similar centres of former times nor with the historic towns of Siberia. The change took place lately and is due to the Siberian trunk line, whose influence has extended even to the distant river ports, to which it has attracted commerce. There its influence has been stronger than in places not situated on navigable rivers.

The following table shows the percentage of growth of population in towns along the Siberian Railway and in towns not situated near the railway :

| Towns on railway. | 1860-1897 per cent. | 1897-1910 per cent. | Towns not near railway | 1897-1910 per cent. |
|---|---|---|---|---|
| Atchinsk ... ... | 167.8 | 39.0 | Akmolinsk ... ... ... | 32.3 |
| Kainsk ... ... | 83.9 | 41.2 | Barnaul ... ... ... | 59.6 |
| Kansk ... ... | 233.5 | 100.0 | Berezof ... ... ... | 33.6 |
| Krasnoyarsk ... | 208.7 | 168.2 | Biisk ... ... ... ... | 65.0 |
| Kurgan ... ... | 200.0 | 235.3 | Semipalatinsk ... ... | 22.0 |
| Mariinsk ... ... | 127.6 | 147.1 | Tara ... ... ... ... | 74.9 |
| Novonikolaievsk ... | — | 998.0 | Tobolsk ... ... ... | 6.3 |
| Omsk ... ... | 94.5 | 210.4 | Tyukalinsk ... ... ... | 24.9 |
| Petropavlovsk ... | 168.2 | 94.2 | Turukhansk ... ... ... | 409.6 |
| Tomsk ... ... | 102.2 | 102.3 | Yalutorovsk ... ... ... | 40.0 |
| Tyumen ... ... | 109.2 | 16.5 | Yeniseisk ... ... ... | 35.4 |

The growth in the population of Omsk, Kurgan, Petropavlovsk, and Krasnoyarsk depended entirely on their favorable geographical position, either where the railway intersects a large river or in the centre of a thickly populated region, rich in agricultural products and cattle. The remarkable growth of Novonikolaievsk was due to the combination of these conditions. The growth in population has been considerably smaller in towns not situated on the Siberian Railway, and the high percentage in some is due merely to the considerable influx of immigrants into certain districts (Biisk, Barnaul, Tara) or to the extensive development of the fishing industry (Turukhansk).

## Growth of Siberian Towns Since 1860

The following table shows the percentage of growth in Siberian towns from 1860 to 1910 :

| Towns. | Increase in population, 1860-1910. per cent. | Towns. | Increase in population, 1860-1910. per cent. |
|---|---|---|---|
| Akmolinsk .. .. ... | 481.8 | Narim ... ... ... ... | 1.1 |
| Atchinsk ... ... ... | 271.8 | Omsk ... ... ... ... | 503.5 |
| Barnaul ... ... ... | 315.0 | Petropavlovsk ... ... | 420.8 |
| Biisk ... ... ... ... | 592.9 | Semipalatinsk .. ... | 289.7 |
| Kainsk ... ... ... | 159.7 | Tobolsk ... ... ... | 21.5 |
| Kansk ... ... ... ... | 569.0 | Tomsk ... ... ... ... | 309.0 |
| Krasnoyarsk ... ... ... | 727.7 | Tyukalinsk ... ... ... | 256.0 |
| Kurgan ... ... ... | 875.4 | Turukhansk ... ... ... | 316.0 |
| Kuznetsk ... ... ... | 130.9 | Tyumen ... ... ... | 143.6 |
| Mariinsk ... ... ... | 462.3 | Yalutorovsk ... ... .. | 2.7 |
| Minusinsk .. .. ... | 271.0 | | |

In this table also are clearly marked the two chief reasons for the growth of the majority of Siberian towns—their location on the railway or the increase in the production of local raw materials in the surrounding districts in connection with the influx of immigrants. Under the influence of the general economic development of Siberia, the towns are growing, their commerce and budgets are increasing, and operations are developing in the river ports, as may be seen from the following statement of the goods exchange at four Siberian river ports in 1900 and 1910 (in poods of 36.1128 pounds) : Tomsk—2,500,000 poods in 1900 and 7,100,000 poods in 1910; Novonikolaievsk—4,400,000 poods in 1900 and 19,500,000 poods in 1910; Omsk—5,000,000 poods in 1900 and 15,000,000 poods in 1910; Krasnoyarsk—1,400,000 poods in 1900 and 7,500,000 poods in 1910.

## Increase in Municipal Expenditures

The growth in the budgets of the towns has been not less considerable, and this is an indisputable sign of development of the towns proper, independent of the neighboring districts. The following table shows the municipal expenditures, in roubles (at the normal exchange rate 1 rouble=51.5 cents) of a number of Siberian towns in 1904 and in 1910 :

| Towns. | 1904 Roubles. | 1910 Roubles. | Towns. | 1904 Roubles. | 1910 Roubles. |
|---|---|---|---|---|---|
| Barnaul ... ... | 100,000 | 560,000 | Novonikolaievsk | 70,900 | 614,400 |
| Biisk ... ... | 47,000 | 200,000 | Tchita ... ... | 117,500 | 430,000 |
| Blagovestchensk | 267,000 | 760,000 | Tobolsk ... ... | 126,400 | 240,500 |
| Irkutsk ... ... | 1,039,800 | 2,100,500 | Tomsk ... ... | 641,500 | 1,205,200 |
| Krasnoyarsk ... | 183,300 | 480,500 | Vladivostok ... | 403,200 | 980,000 |
| Kurgan ... ... | 105,800 | 170,000 | | | |

During five recent years the expenditures of 20 Siberian towns increased from 4,042,900 roubles to 8,974,800 roubles; that is, it more than doubled, whereas the budgets of the 826 towns of all Russia increased only 50 per cent. during that time.

## Population of Large Siberian Towns

The population of the largest towns in Siberia is shown in the following table, according to the census figures for 1897 and estimates for 1909-1911 :

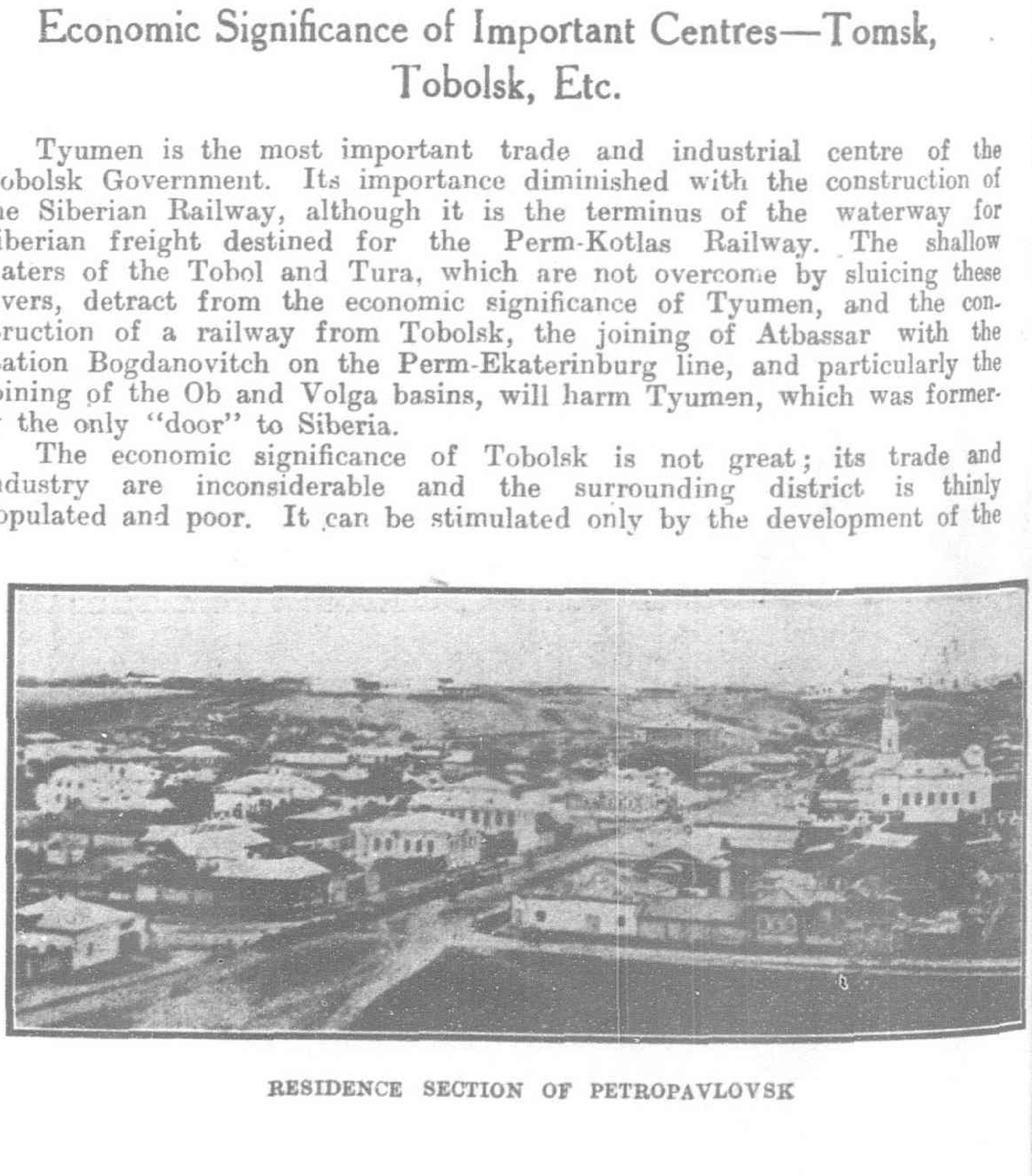
| Towns. | 1897 | 1909-1911 | Towns. | 1897 | 1909-1911 |
|---|---|---|---|---|---|
| Barnaul ... ... | 29,408 | 46,000 | Petropavlovsk (Akmolinsk Government) | 21,749 | 43,000 |
| Blagovestchensk | 32,606 | 77,000 | Semipalatinsk ... | 26,353 | 39,000 |
| Irkutsk ... ... | 51,484 | 113,000 | Chita ... ... | 11,480 | 73,000 |
| Habarovsk ... | 14,932 | 50,000 | Tobolsk ... ... | 20,427 | 38,000 |
| Krasnoyarsk ... | 26,653 | 62,000 | Tomsk ... ... | 52,430 | 108,000 |
| Nikolsk-Ussuriisk | 8,932 | 52,000 | Tyumen ... ... | 29,588 | 51,000 |
| Novonikolaievsk | 8,473 | 70,000 | Vladivostok ... | 28,986 | 120,000 |
| Omsk ... ... | 37,470 | 128,000 | | | |

Siberia has mostly a rural population (92 per cent.), owing to the slight development of manufacturing and of trade and industrial activity. The remarkable growth of population in some of the Siberian towns has been the result not of manufacturing development but of geographical position, through which these towns have become the shipping points for raw materials and distributing centres for the more thickly populated and productive regions surrounding them.

## Economic Significance of Important Centres—Tomsk, Tobolsk, Etc.

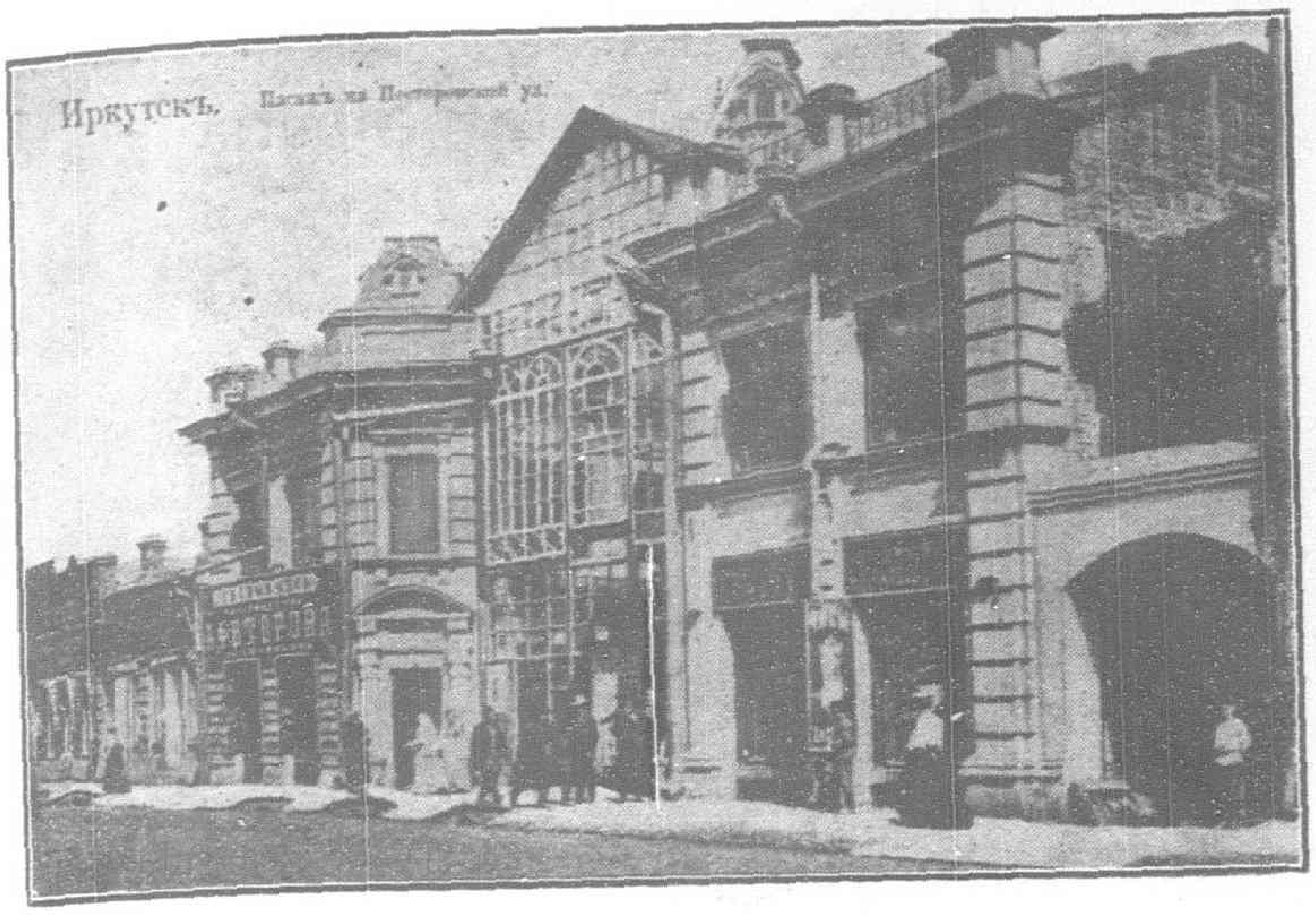
Tyumen is the most important trade and industrial centre of the Tobolsk Government. Its importance diminished with the construction of the Siberian Railway, although it is the terminus of the waterway for Siberian freight destined for the Perm-Kotlas Railway. The shallow waters of the Tobol and Tura, which are not overcome by sluicing these rivers, detract from the economic significance of Tyumen, and the construction of a railway from Tobolsk, the joining of Atbassar with the station Bogdanovitch on the Perm-Ekaterinburg line, and particularly the joining of the Ob and Volga basins, will harm Tyumen, which was formerly the only "door" to Siberia.

The economic significance of Tobolsk is not great; its trade and industry are inconsiderable and the surrounding district is thinly populated and poor. It can be stimulated only by the development of the



RESIDENCE SECTION OF PETROPAVLOVSK

fishing industry in the lower part of the Ob and particularly by the construction of a branch line to join it to the main line. In the north of the Tobolsk Government, Obdorsk is growing as a centre of the fishing and fur industries, and Berezof is dwindling so that its inhabitants are petitioning for the town to be turned into a village, because trade has left it owing to new commercial centres having sprung up in the uyezd (district). With the establishment of railway traffic on the Tyumen-Omsk line, Yalutorovsk, and particularly Ishim, should attract raw materials from the neighboring districts. Kurgan, which is situated in the centre of the most fertile part of western Siberia, in the most thickly populated district of Siberia, is growing rapidly. Its trade in grain, butter, farm produce, flour, and distilled liquors continues to develop.



STORES AT IRKUTSK

## Petropavlovsk and Omsk

Petropavlovsk, which has a prime significance in the local steppes trade, has a strong economic influence not only on a considerable part of the Akmolinsk Government, but also on part of the Semipalatinsk, Semiryetchensk, and Turgai Governments. It attracts a considerable part of the animal products and butter destined for abroad (about 30,000,000 poods). The largest town of Siberia, Omsk, owes its rapid economic development to its excellent geographical position at the point of intersection of the trunk line with the Irtysh River, along which the grain and cattle products from the whole of the Semipalatinsk Government travel to Omsk. Being the Siberian centre nearest to European Russia and having so favorable a geographical situation, Omsk has become the centre for large purchases of Siberian raw materials and has large warehouses for manufactured goods and agricultural machinery.

## Semipalatinsk and Novonikolaievsk

Semipalatinsk seems to be the southern approach to the Siberian trunk line, attracting the raw materials from the vast southern steppe region and being the distributing centre for the neighboring steppe district and even for the neighboring Central Asia territories. Novonikolaievsk is unequaled by any town in Siberia in the rapidity of its econmic development; the town was founded 23 years ago as a settlement near the Ob Railway station, which was then being built. In 1904 the population of this settlement amounted to only 15,000. Its geographical position determined its economic significance; the thickly populated and fertile Altai district surrounds it. There is no doubt of the further development of Novonikolaievsk; it will always remain the point of concentration of raw material and the distributing centre for a very rich and large district.

## Tomsk, Barnaul, and Biisk

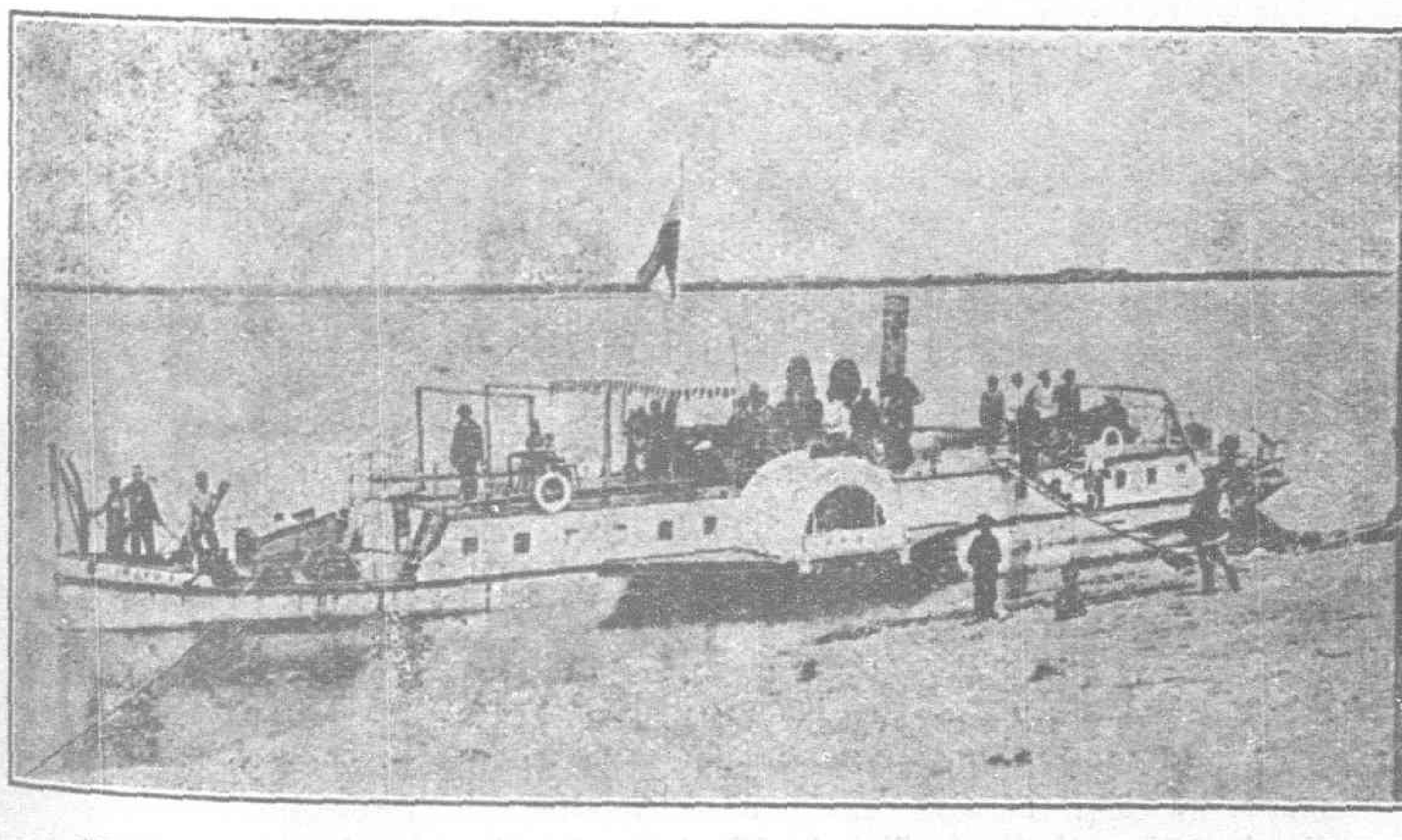
Tomsk, which is situated in the northern, marshy, unfertile part of the Government of that name, and is only joined to the main line by a branch line, gives way more and more to Novonikolaievsk. Its industry is insignificant. The railway, which has altered the character of Siberian trade, and the unfavorable geographical position of the town have diminished its former importance as a goods-distributing centre. After the division of the Government into two parts, its influence as an administrative centre also will decrease. Owing to the large number of schools, among them many high schools, Tomsk has changed from the former "Siberian Moscow" into the "Siberian Athens," but its economic significance will continue to decrease. Barnaul, on the contrary, will occupy the same position for its surrounding district, though in a smaller degree, as Novonikolaievsk does for a larger region. It is a very important point for the grain trade. Local industries are developed and are increasing; they include the making of fur coats ("barnauloks"), straw hats, and agricultural machinery. With the establishment of the Altai Government it will have the importance of a large administrative centre. Biisk is a most important point in an economic sense; steam navigation on the Ob commences here and there are three high roads leading to the Altai—to the western part of the Altai Mountains (toward Ust-Kamenogorsk), to the east, and toward Lake Telets and the Chinese frontier. Being the centre of a large grain-growing district, Biisk sends enormous quantities of grain down the Ob and supplies the Altai gold mines with grain. With the construction of a railway, its significance will increase still more, like Barnaul.

## Krasnoyarsk, Minusinsk, and Yeniseisk

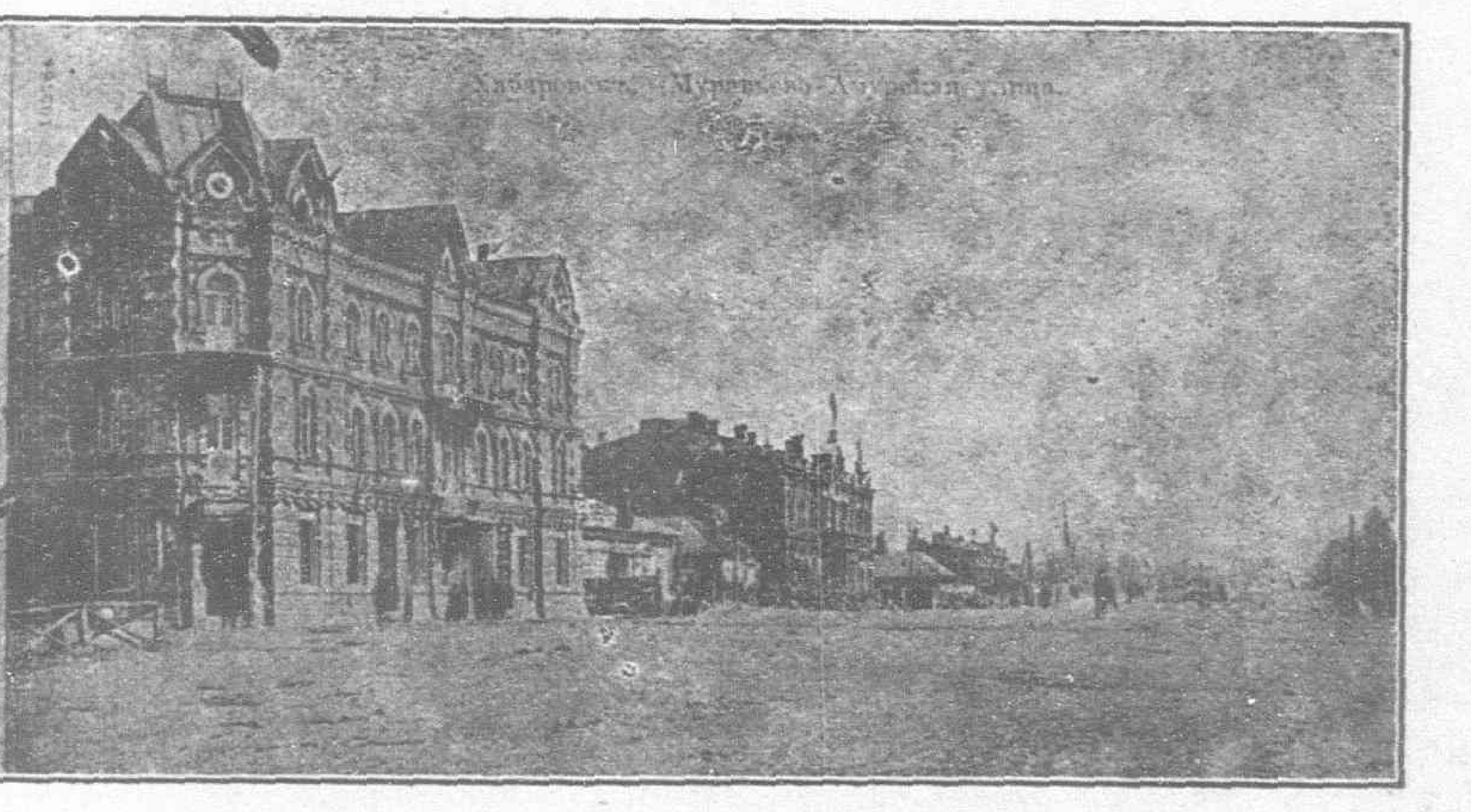
Krasnoyarsk, being situated at the point of intersection of the trunk line and the Yenisei, has developed considerably and has two chances for its further growth. It draws all the freight from the rich Minusinsk Government (grain, hides, wool, liquors, and meat, up to 600,000 poods) and is the distributing centre for goods (tea, kerosene, cotton goods, and agricultural machinery) traveling north and south. With the construction of a railway to Atchinsk, the significance of Minusinsk increases as a distributing point for the raw material in which the district is so rich. Grain and meat shipments will be sent from there in continually increasing amounts to the Irkutsk Government and even to the Transbaikal. Yeniseisk, which was at one time the only point of transit, joining western and eastern Siberia, has decreased in importance with the decline in the gold-mining industry and can be reanimated only by the opening of a northern sea route. The fishing industry, which is developing in the lower parts of the Yenisei, will not affect the development of the town in any considerable way, because it is in the hands of operators who are there only temporarily and do not come from Yeniseisk.

## Importance of Irkutsk

Irkutsk is at the present time a centre diminishing in importance. Though it has no industry, it is still important as a centre for goods traveling to the Olekminsko-Vitimsk mines. One of the chief places of consumption of these supplies is the mines of the Lena Mountain district, for whose requirements, as shown by long experience, various goods, food supplies, and materials are brought, amounting to 1,500,000 poods, not including hay (about 300,000 poods), vegetables (up to 100,000 poods), and cattle (up to 4,000 head), because these supplies do not travel along the branch lines. Of the total amount of grain and fodder supplied one-third is brought from the Lena River, and two-thirds from the Angara River in the Balagan district. And if there is added to the freight traveling to the mines all the freight traveling to Yakutsk and to other points of the Lena district, the probable total amount of the freight exchange of the railway equals

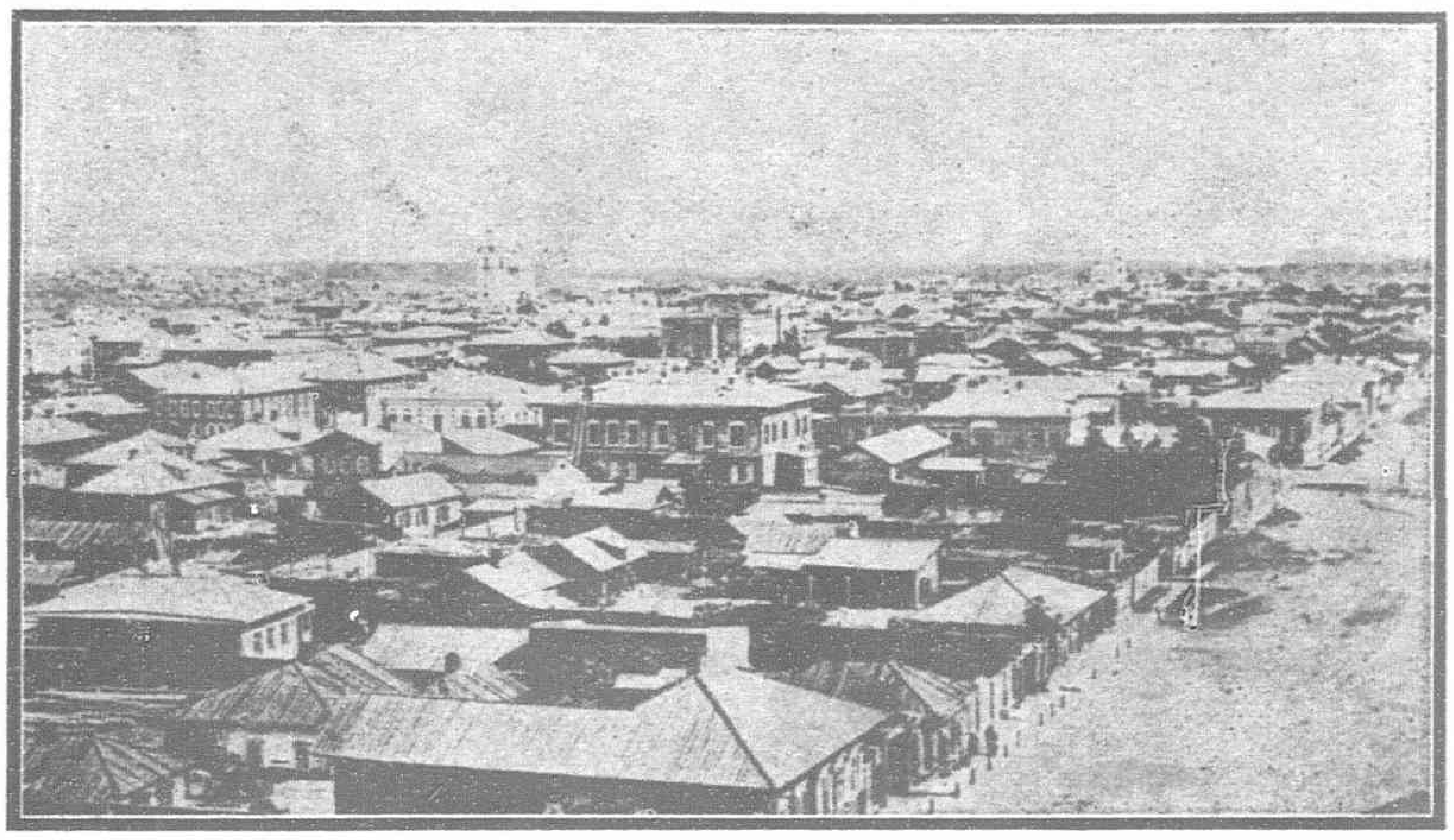


CHINESE EASTERN RAILWAY STEAMER PLYING ON THE SUNGARI RIVER FROM HABAROVSK ON THE AMUR



AMUR STREET, HABAROVSK

6,000,000 to 8,000,000 poods. The Siberian main line has harmed Irkutsk, because the surrounding district is so thinly populated and so poor that it cannot provide much freight; for instance, the fish transported (principally from the Baikal) amounted in 1890 to only 69,911 poods. In 1907 there were 1,136 trade and industrial enterprises at Irkutsk, having a yearly turnover of 37,940,000 roubles and in 1910 there were 2,131 enterprises, but having a turnover of only 27,695,083 roubles : and the freight from the west, part of which was formerly retained at Irkutsk as the distributing centre, now proceeds farther east. The economic significance of Irkutsk will be undermined still more by the direct joining of the Lena Province with the main line and of Verkhneudinsk with Kiakhta and Urga by railway.



VIEW OF KRASNOYARSK SHOWING PERMANENT CHARACTER OF BUILDINGS

## Towns of Eastern Siberia

The favorable position of Verkneudinsk on the navigable Selenga River and its proximity to the more thickly populated and fertile districts of the Transbaikal make this town an important local economic centre, which promises to develop further with the construction of a railway to Urga. Chita is rapidly growing as a commercial centre for a considerable part of the Transbaikal. The exploitation of the mineral wealth of the Transbaikal in the near future will have a still greater influence on the growth of this town. Sryteensk owes its economic development to its position on that part of the Shilka where navigation commences. The increasing shallowness of the Shilka and the construction of the Amur Railway will probably have an unfavorable effect on Sryteensk. The commercial significance of Kiakhta, from which a considerable part of the tea transit traffic has vanished can be improved only by the construction of a railway to Urga, as Mongolia is being drawn more and more into the world's commerce. The towns of the Priamur, besides their administrative significance, are gaining importance as economic and goods-distributing centres ; for instance, Blagovestchensk sends shipments of grain, meat, and other goods north to the gold-mining district and to the railway that is being constructed, and sends similar shipments downstream and receives grain and cattle from Manchuria. Nikolaievsk is significant as the centre of the Amur fishing industry and as a seaport from which goods (tea and fish included) are sent up the Amur.

The economic significance of Vladivostok is chiefly centered in the fact that it is a large commercial port, having a wide local distribution of goods for the whole of the Priamur district and the South Ussuriisk province in particular.

## Villages and New Settlements Affected by Railway

The Siberian main line and the general development of the economic life of Siberia have not only stimulated towns and villages already in existence but have caused new settlements. In western Siberia, between Cchelyabinsk and the Yenisei Government, Tatarsk, Sibirskaya, and Bogotol have developed to such an extent that they have been raised to the rank of towns. Tulun, situated between Krasnoyarsk and Irkutsk, has become a well-known commercial point, from which goods travel to the Lena and the Angara. Nisovsk is a lively commercial point. The new town Alexievsk has grown up on the River Zeya, at the point where it intersects with the Amur Railway (8 versts* from the station Surazhevka); owing to its geographical position, this town will grow into an important commercial centre. The same may be expected of Malinovka on the Bureya River, on the upper course of which are wood and mines. The transportation of grain and other freight from the Altai region has caused the growth of many villages on the upper Ob, which serve as river ports : Kamen, the centre of grain trade in the northwestern part of the Barnaul district ; Ust-Tcharishskoi, the chief commercial centre of the Biisk district, one of the largest ports for the transfer of grain freight ; Berskoi, and others. Owing to the influx of immigrants into the Kulundinskaya steppe the town Slavgorod has been founded. Iman and Bikin, in the coast province, have been made towns and it has been suggested that the port St. Olga also should be made a town.—*Compiled from Golovachey's Economic Geography of Siberia (published in 1914) by U.S. Commercial Attaché William C. Huntington, Washington.*

# The Railways of Siberia

The development of Siberia has been retarded owing to the fact that there is only one main line of railway. The absence of branch lines has hindered the full utilization of the great natural resources of Siberia, and the population have had great difficulty in shipping their products to profitable markets, says the Canadian Department of Trade and Commerce, in the course of a report which is here reproduced :

Up to the outbreak of the war the main line of the Trans-Siberian Railway provided the only means for handling the traffic of Siberia. This was supplemented in summer by steamboat services on the principal rivers, which flow north and south and are intersected by the railway. Settlement has, therefore, been confined for the most part to the narrow strip of territory adjoining the railway and the banks of the rivers. Long before the war leading Siberian public men and organizations were urging the construction of branch railway lines, not only to create a wider market for the agricultural products of the country, but also to render possible the further exploitation of the mineral and forest resources of Siberia.

## Existing Railway Lines

The railways of Siberia are divided for operating purposes into a number of separate systems. The following list gives particulars with regard to the systems at present in operation :

| Railways. | Headquarters. | Lines in operation. | Mileage. |
|---|---|---|---|
| Omsk Railway ... ... | Omsk ... ... | Ekaterinburg to Omsk : Ekaterinburg to Tchelyabinsk : Tchelyabinsk to Novonikolaievsk via Omsk ... ... ... ... ... | 1,602 |
| Kolundin Railway (private) ... ... ... ... | do.... ... | Tatarskaya to Slavgorod ... ... | 197 |
| Altai Railway ... ... | Barnaul | Novonikolaievsk to Semipalatinsk via Barnaul ; branch Altaiskaya to Biisk ... ... ... ... ... | 501 |
| Tomsk Railway ... ... | Tomsk ... | Novonikolaievsk to Innokentevskaya (near Irkutsk) ; branch Taiga to Tomsk ... ... ... | 1,206 |
| Koltchugin Railway (private) ... ... ... ... | do.... ... | Urga (98' miles from Novonikolaievsk to Koltchugin ; branches to Koltchugin mines and Topki to Kemerovo ; other extensions under construction ... | 150 |
| Transbaikal Railway ... | Irkutsk... | Innokentevskaya (near Irkutsk) to Manchurian frontier : branch Karimskaya to Sretyensk... ... | 1,132 |
| Amur Railway ... ... | Chita (to be transferred to Alexsievsk). | Kuenga to Habarovsk ; branches Tiptugari to Tchasovinskaya ; Rukhlovo to Reynovo, Ushumun to Tchernyaevo, Alexsievsk to Zeya Ferry, Botchkarevo to Blagoveshchensk, Buryeya to Buryeya Ferry, Arkhara to Innekentevsk, and Pokrovka to Vladimirovka ... ... ... ... | 1,408 |
| Chinese Eastern Railway (semi-private) ... | Harbin... | Manchuria Station to Vladivostok ; branch Harbin to Changchun ... ... ... ... ... ... | 1,218 |
| Ussuri Railway ... ... | Managed by Chinese Eastern Railway. | Nikolsk Ussurisk to Habarovsk ; branch Ugolnaya to Kangauz... | 414 |

The table shows a complete list of the railway lines in operation in Siberia east of Ekaterinburg and Tchelyabinsk, which two places are, strictly speaking, in European Russia. The total length of these railway lines is 7,828 miles, of which 1,074 miles are situated in Manchurian territory. Mention should also be made of the short private narrow-gauge lines at Spassky, Ekibastus (broad gauge for 70 miles), and Ridder Mines, in western Siberia, and a line 47 miles long in the Lena River gold fields. These lines are operated only for the mining companies and not for the public.

## Progress of Construction in Recent Years

Each of the lines given in the table comprises a self-contained and self-operating railway system with separate staffs, workshops, and rolling stock. The main Transsiberian line is double tracked from Omsk, which is the junction of the northern route through Tyumen with the original Siberian line through Tchelyabinsk to Station Karimskaya, where the line around the Amur leaves the main line through Manchuria. The distance of this double track from Omsk to Karimskaya is 2,262 miles. The short distance from Nikolsk-Ussurisk to Vladivostok is also double tracked. It may, therefore, be said that there are two lines of rail in operation from the Ural Mountains to the Pacific Ocean. The only breaks are the bridges over the Irtysh, Ob, and Yenisei Rivers, which have only single tracks.

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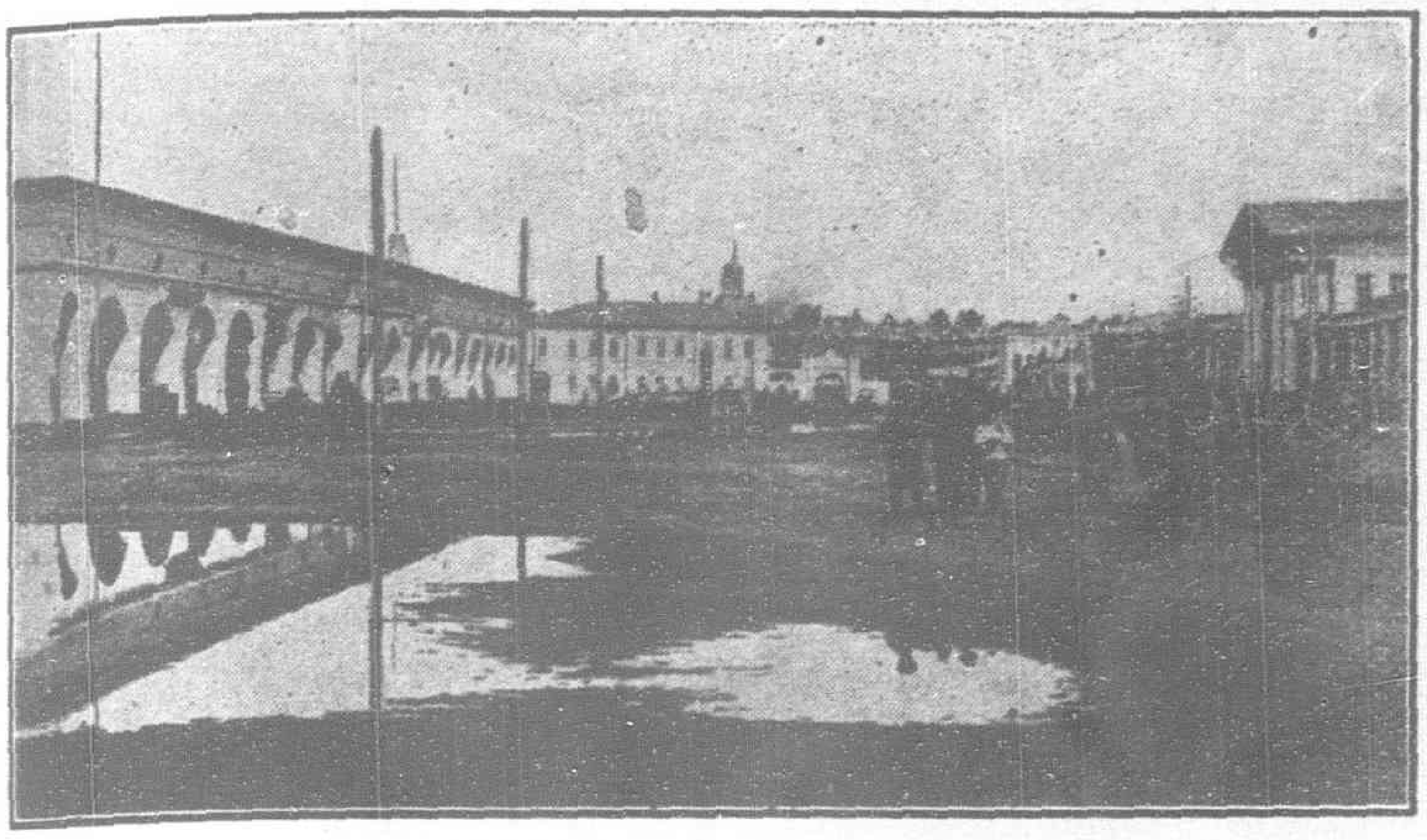
* About 5⅓ miles.



THE MARKET AT VERKNEUDINSK

The length of the main Transsiberian Railway from Moscow to Vladivostok by way of Tchelyabinsk and Samara is 5,162 miles. The line was completed and under operation as far as Lake Baikal in 1898. The section between Lake Baikal and Sretyensk on the Amur River was opened in 1900. The Ussuri Railway was ready for operation a year before that. In 1904 the Chinese Eastern Railway, the last link in the transcontinental chain of communications, was completed. The construction of the short but difficult section of line around the southern end of Lake Baikal was finished in 1904. After the Russo-Japanese War the double tracking of the whole line was commenced. This work was completed just prior to the outbreak of the European war. The northern line from Ekaterinburg to Omsk, providing direct connection with Petrograd, was opened in 1911. By this route the distance from Petrograd to Vladivostok is 5,434 miles. The construction of a line around the Amur River solely in Russian territory was commenced in 1908 and was ready for operation only with the completion of the bridge over the Amur River in 1916. The outbreak of the European war and the difficulty in obtaining supplies greatly interfered with the work of completing the Amur Railway and the line is only partly finished in many places. The operation of the Altai Railway commenced in 1916, and the same year also saw the completion of the Kolundin and Kolchugin Railways. The Altai Railway is the most important of the lines recently constructed. This railway runs south from the main line at Novonikolaievsk to the fertile agricultural districts in the foothills of the Altai Mountains. It has also greatly facilitated the development of the mineral areas in the Altai and on the Kirghiz steppe.

## Program of Railway Construction

The deficiency of adequate railway facilities in Siberia was demonstrated by the war and its consequent heavy demand upon the existing facilities for the transport of military supplies. In 1916 the commission on new railways of the Russian Ministry of Finance submitted a program for the construction of those railway lines which circumstances had demonstrated were most urgently required. Although the revolution and the present unsettled conditions in Russia have entirely changed the position, nevertheless it is the intention to proceed with the building of certain of these lines, and the construction of some work has actually been commenced. That part of the program which relates to Siberia, together with an outline of the present position in regard to each railway projected, is set forth in the following summary of probable railway construction in Siberia :

(1) *The South Siberian Railway.*—The most important of the new railways planned for Siberia is that which is known as the South Siberian Railway, which is to run from Orsk, in the Government of Orenburg near the European Russian border, across the Kirghiz steppes through Atbazar and Akmolinsk to Semipalatinsk, the present terminus of the Altai Railway. This railway will comprise a second Siberian trunk line about 250 miles south of the present line. An outlet will be provided thereby for the agricultural and mineral products of the Altai region, and the line will materially assist the exploitation of the resources of the Kirghiz steppes, which are especially rich in copper, lead, and zinc ores. After the main line is completed it is intended to construct a branch from Akmolinsk to the Irtysh River at Pavlodar and thence to Slavgorod, the present terminus of the Kolundin Railway, and so on to Barnaul, where connection will be made with the Altai Railway and the Kuznetsk-Barnaul branch of the Koltchugino Railway, which is also included among the lines projected for the near future The logical extension of this line would then be from Kuznetsk to Minusinsk, thereby providing a second trunk line of railway from the Ural Mountains to the Yenisei River and greatly assisting the development of some of the richest districts in western Siberia.

The total length of the South Siberian Railway will, when completed, be over a thousand miles. It is reported from Western Siberia that the syndicate which has the concession for the building of the railway has already commenced upon the work of construction of the section east of Orsk and at other points along the line. It is the intention to push the building of the main line to Semipalatinsk as quickly as possible, and rails have already been shipped from Vladivostok for this purpose. The syndicate, which is known as the South Siberian Railway and which has its headquarters at Omsk, is reported to be negotiating for a loan of $2,000,000.

(2) *Akmolinsk-Spassky Copper Mines.*—This railway will be a branch of the South Siberian system and will connect the main line with the mineral areas to the south in the vicinity of the Spassky copper mines. Plans for the construction of this line are at present in abeyance.

(3) *Slavgorod-Semipalatinsk-Vyerny.*—This railway will form another important trunk line running north and south and will be closely related to the South Siberian and main Siberian railway systems. It is planned to construct this line at an early date, as soon as the railway north from Russian Turkestan to Vyerny is completed. This route will run south from Slavgorod, the present terminus of the Kolundin Railway, through Semipalatinsk to Vyerny, with a total length of nearly 1,000 miles. Vyerny is the trade centre of Semiryetchensk Province, a district capable of supporting a large population. The town is an important emporium for the trade with Mongolia, and a railway is also projected to run from Vyerny through a depression in the mountains to the town of Kuldja across the border. The connection of the territory of which Vyerny is the centre with the railway system of western Siberia by the construction of this north and south trunk line will render possible the exchange of Siberian grain and other products for the semi-tropical productions of Russian Turkestan and Central Asia.

(4) *Petropavlovsk-Kokchetav.*—This railway will run south from the present Trans-Siberian Railway to Kokchetav, a distance of about 100 miles, and will serve the steppe country between the Ishim and Irtish Rivers, noted for its cattle products. This branch railway will no doubt be extended eventually to connect with the South Siberian Railway.

(5) and (6) *Koltchugino-Kuznetsk and Kuznetsk-Barnaul.*—These lines are extensions of the Koltchugino Railway and will enable the company to develop its network in the sphere of the Kuznetsk coal and other mineral veins. The Kuznetsk-Barnaul branch will connect with the Altai Railway and the line of the South Siberian Railway through Pavlodar and Slavgorod. Rails are reported to have also gone forward from Vladivostok for the Koltchugino Railway extensions.

(7) *Ekaterinburg-Simarskaya and Shadrinsk-Kurgan.*—The construction of these lines could afford direct connection between Ekaterinburg and Kurgan, and would materially assist the further development of the Kurgan district.

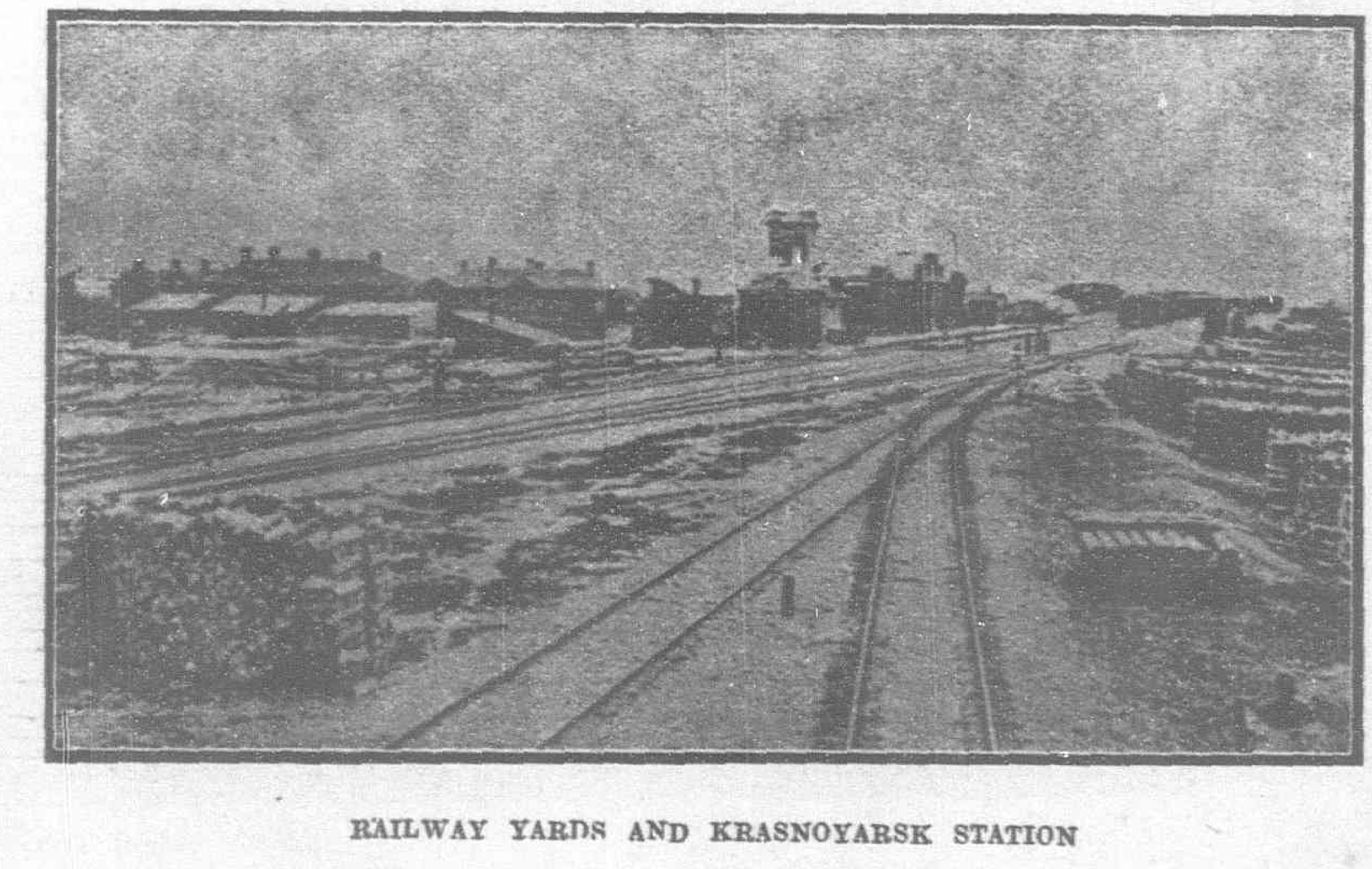
(8) *Atchinsk-Yeniseisk.*—This railway line is projected to run from the Transsiberian Railway north to Yeniseisk, a point on the Yenisei River some 230 miles below Krasnoyarsk. It would serve the lower Yenisei Valley and the agricultural districts north of Atchinsk. The construction of this line may be said to be in abeyance for the present.

(9) *Minusinsk Railway.*—This railway enterprise was approved in 1913. Grade construction has been practically finished, and the securing of the necessary rail supplies would assure the completion of the whole line, which runs south 285 miles from Atchinsk on the main Siberian line to Minusinsk, a town on the upper Yenisei River. The construction of this railway gives access to a fertile agricultural district with black-earth soil and a sheltered location. The line also reaches important mineral areas, such as the Abakansk iron mines.

(10) *Lena Railway.*—A railway has been projected from some point of the Transsiberian Railway between Nizhni Udinsk and Irkutsk to the head of navigation on the Lena River, thereby facilitating communication with the placer gold and fur regions of the Lena Valley. It may be expected that the construction of this line will be carried forward before very long.

(11) *North Siberian Railway.*—A railway line has been proposed for some years to run from Tyumen eastward through Tara, on the Irtysh River, and thence to Tomsk, thereby giving access to the forest districts of the Tobolsk Government and affording a direct line of communication to Tomsk, which, being off the main Siberian line, has not progressed of late to the same extent as other Siberian towns. The construction of this line has not yet been authorized and it is not likely that construction will be begun until more pressing railway needs have been met.

(12) *Tobolsk Railway.*—There may also be mentioned the proposal for a line either from Tyumen direct or from Ekaterinburg through Irbit to



RAILWAY YARDS AND KRASNOYARSK STATION

Tobolsk. This railway project also is not likely to mature for a considerable time, since it serves forest districts not in the greatest need of railway communication.

(13) *North Ural Railway.*—Various proposals have been made for a railway to cross the northern Ural Mountains and connect the Ob Valley with Archangel or some other port on the Arctic Ocean, thus giving the timber and other bulky products of western Siberia an outlet to European markets. This question of cheap transportation to tidewater is one of the chief economic problems of western Siberia and it is possible that the future may see the realization of one of these projects.

(14) *Kiakhta Railway.*—Plans have been put forward for the building of a railway south from Verkneudinsk to Kiakhta, on the Mongolian border, in order to tap the caravan trade across the Gobi Desert.

## Present Transportation Situation

The foregoing is a brief outline of the railway lines in Siberia, the construction of which has been projected for the near future and in certain cases has already been authorized. It is evident that the present unsettled conditions render difficult the execution of these plans for railroad building on a large scale. The acquisition of the necessary capital and the securing of supplies and equipment present the chief problems involved. On the other hand, it is realized that the further exploitation of the great resources of the territory and the development of an export trade in Siberian products depends to a great extent on the provision of adequate transport facilities. It may, therefore, be expected that every effort will be made to carry out the construction of those railway lines most urgently needed, since capital invested in these undertakings will assist toward eventually paying of the debt incurred with foreign countries through the development of exports. The most pressing need of the present moment, however, is the restoration of the existing railway facilities to working efficiency by repairing the roadbed and providing sufficient rolling stock to enable the Transsiberian Railway to transport the goods urgently required in the interior of the country. The lack of railway cars and locomotives is one of the chief obstacles to the relief of the present economic situation in Siberia, and their provision demands first attention.

# Siberian Railway Internationally Supervised

After considerable discussion, and some heartburning in certain quarters, an arrangement has been come to for international supervision of the Siberian railway, under the Presidency of Mr. Stevens. The agreements, etc., given below, as conveyed in *notes verbales* between the United States and Japan, speak for themselves:—

(1) A general supervision of the railways in the zone in which the Allied forces are operating shall be exercised by a special Inter-Allied Commission consisting of representatives of each Allied Power having military forces in Siberia, including Russia, the chairman of which shall be a Russian.

The following Boards shall be created and placed under control of the entire Allied Committee:—

(*a*) A Technical Board consisting of railway experts belonging to the said line for the purposes of administering the technical and economic management of all the railways in the said zone.

(*b*) An Allied Military Transportation Board for the purpose of co-ordinating military transportation under the instruction of the proper military authorities.

(2) The protection of the railways shall be placed under the military forces of the Allies.

At the head of each railway shall remain a Russian manager or director with powers conferred by the existing Russian law.

(3) The Technical Board shall elect a President to whom shall be entrusted technical operation of the railways. In the matter of such operation the President may issue instructions to the Russian official mentioned in the preceding clause, and he may appoint assistants and instructors in the service of the Board, chosen from the nationals having military forces in Siberia, to be attached to the central office of the Board and define their duties. Any of the Corps of railway experts may be assigned by him to more important stations. In assigning railway experts to any stations, the interests of the respective Allied Powers in charge of the military protection of such stations shall be taken into due consideration He shall distribute work among the clerical staff of the Board, whom he may appoint at his discretion.

(4) The clerical staff of the Inter-Allied Committee shall be appointed by the Chairman of the Committee, who shall have the right of distributing work among such employes as well as of discharging them.

(5) The present arrangement ceases to be operative upon the withdrawal of the foreign military forces from Siberia and all the foreign railway experts appointed under this agreement shall be then forthwith recalled

The *note verbale* begins:—

The American Embassy is directed by the State Department to inform the Imperial Foreign Office that it is submitting for the consideration of the Imperial Japanese Government a suggested plan by means of which Mr. Stevens, acting through the present Russian managements and in the interests of the Russian people, may temporarily undertake the actual operation of the Chinese Eastern and Trans-Siberian Railways. The Government of the United States desires to emphasise the fact that Mr. Stevens and the Russian Railway Service Corps which assist him, represent Russia and not the United States or any possible interest of the United States as the United States has no desire or purpose to secure an interest in the Russian railways or to control them for itself.

A memorandum from the Imperial Japanese Government states:

The Imperial Japanese Government desire to express sincere thanks for the communication which the American Embassy made in the *note verbale* dated October 25 respecting the operation of the said railways.

They have noted with much satisfaction the assurance contained that the United States has no desire and no purpose to secure an interest in the Russian railways or the control of them.

The general memorandum begins:

Any financial responsibility involved in the plan of international administration of the Siberian Railways and the Russian interest in the Chinese-Eastern Railway is reserved for further discussion.

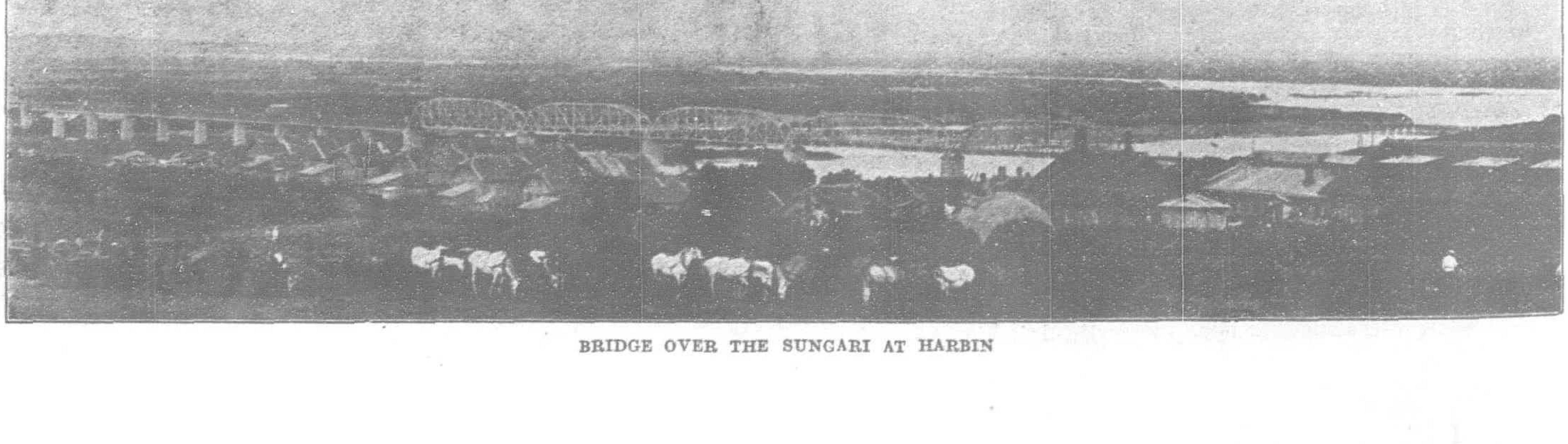
The word " interests " used in Clause 3 is understood to refer to the convenience of the respective Allied Governments and the United States and does not imply any political or other spheres of influence and, as stated very clearly in the agreement, the plan is to be interpreted as a sincere effort to operate the railways in the interests of the Russian people.

Under the proposed arrangement China's interests are fully protected and cordial co-operation on the part of the Chinese Government is hoped for.

The text of the agreement as submitted is subject to verbal corrections should such be necessary in view of possible errors in telegraphic transmission.

The following additional Memorandum was published as from Japan:—

(1) Viscount Uchida will forward the amended plan to Viscount Ishii, the Japanese Ambassador at Washington, with



BRIDGE OVER THE SUNGARI AT HARBIN

instructions to present it to the State Department, explaining that it is submitted on the understanding that Mr. Stevens, the American expert, is named as President of the railways.

(2) The Inter-Allied Committees shall consist of one representative of China, France, Great Britain, Italy, Japan, Russia and the United States: leaving the question of the Czecho-Slovaks to be discussed at a later date.

(3) Each of the above governments shall select one technical railway expert for membership of the Technical Board.

(4) The selection of Mr. Stevens as President shall not prevent his selection as a member of the Technical Board.

(5) Japan and the United States at once to advise the above associated governments of the agreed plan, including the understanding with reference to the selection of Mr. Stevens and shall request their adherence and cordial cooperation.

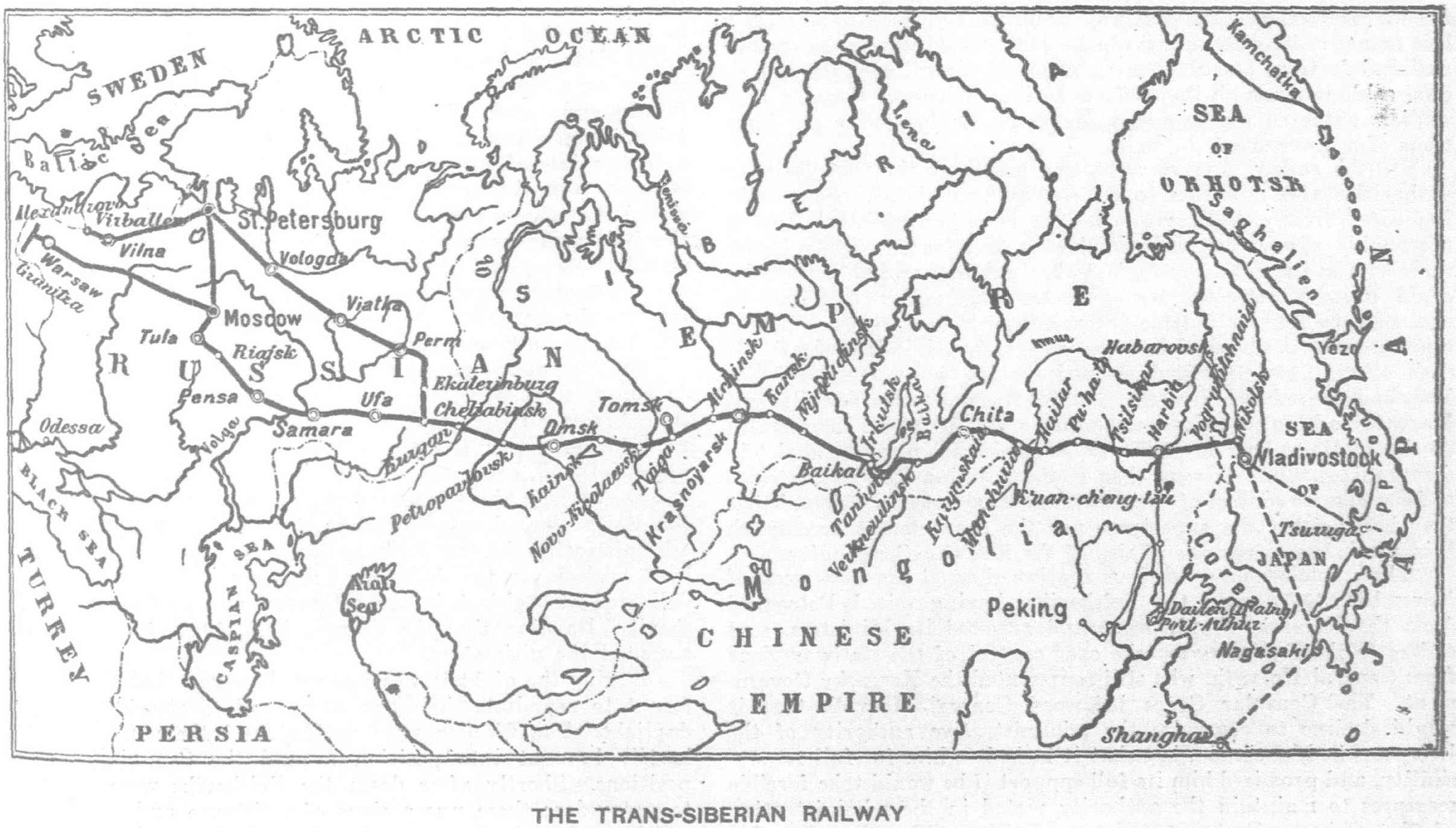
(6) This plan shall be interpreted as a sincere effort temporarily to operate the Chinese-Eastern and Trans-Siberian Railways in the interest of the Russian people with a view to their ultimate return to those possessing interests in them, without impairing their existing rights, and that, in entrusting to Mr. Stevens the technical operations of these lines, it is understood that Japan and the United States are both prepared to give him the authority and support necessary to make his efforts successful.

## The Bolsheviks and the Railway Administration

How the Revolution in Russia of March, 1917, affected North Manchuria, and particularly Harbin and the Siberian railway, ultimately leading to results almost as revolutionary there as in the country of its origin will perhaps prove of interest, since the chaos thus brought about is responsible for the control now arranged for. During the months following the outbreak of the revolution robberies, murders and other outrages of person or property were of exceeding frequence, but they were confined almost exclusively to the Russian population, troubled by the social and political chaos into which the revolution had thrown them; and it speaks no less for the generally amiable attitude of the Russian populace toward foreigners than for the authority which the foreign Consuls at Harbin were able to exert, that so few foreigners were molested. By July the principal Russian officials of reactionary and oppressive tendencies had been removed from Harbin, while the Chinese Government had removed from office the incompetent Taoyin, Li Hung Moo, and put in his place the intelligent and cultivated Sze Chao Chang. More than any other thing, however, that prevented the terrors of anarchy descending upon Harbin was the ability of the foreign Consular representatives to solidly cooperate, and to support Lieutenant-General Horvath, Chief Administrator of the Chinese Eastern Railway, in his position as head of the Russian colony.

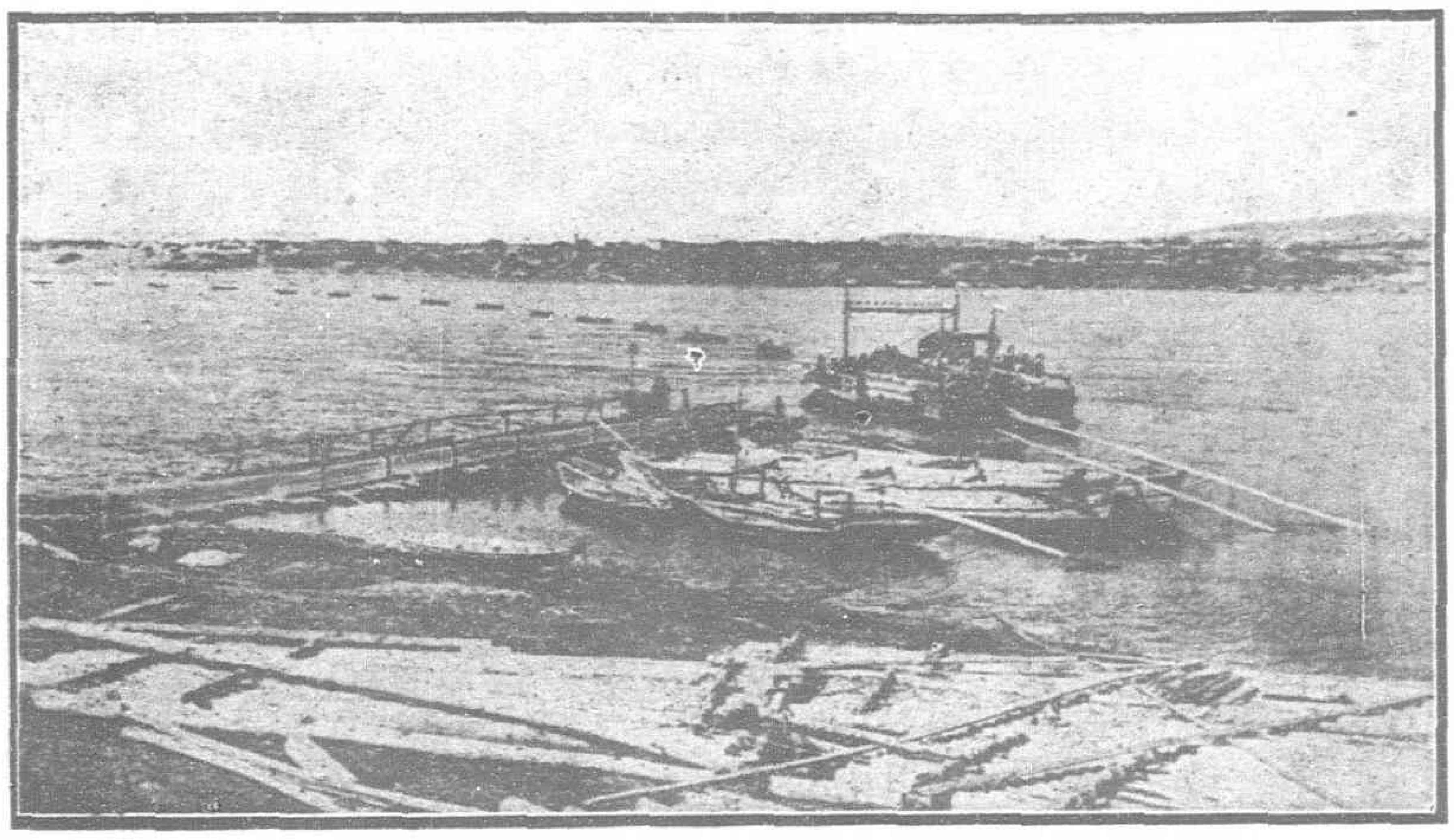
Prior to the revolution General Horvath as Chief of the Chinese Eastern Railway was practically dictator of the Railway Zone. The municipality of Harbin was administered by a Council of nine members elected by the Assembly of Delegates, themselves elected by the property owners of the alienated area. The Chinese authorities administered the two provinces of North Manchuria lying outside the Railway Zone, but in practically all cases involving Russian or foreign interests they were subservient to the Russian Powers. From participation in any of the activities connected with sovereignty, within the limits of the Railway Zone they were completely excluded. Chinese officials were permitted no voice in any matter that arose in the Zone, unless (and not always in such cases) it directly affected the particular interest of a Chinese citizen. The Chinese Customs was not allowed an inspection post at any of the railway stations except at the two frontier stations at either end.

The Railway authorities suppressed the news of the revolution of Petrograd until the tidings leaked out on March 16th, and within a few days the Russian community had accepted it as a reality. A score of fairly representative men got together and appointed themselves a Republican Executive Committee and assumed, under the proclaimed authority of the First Provisional Government, the administrative control of the municipality. General Horvath was asked by the Provisional Government to retain his position, with the title of Commissioner, and the population approved. The practical effect was that while previously Horvath had full power to issue obligated regulations in all except strictly municipal matters and no enactments of the Municipal Council could become operative except with his consent, now he could exert no authority except that which received the previous authorization of the Executive Committee.



THE TRANS-SIBERIAN RAILWAY

Then began the summary arrest by soldiers of their officers. The Council of Soldiers' and Workmen's Delegates at Petrograd had its replica here, and for some weeks the town was torn by collision between the authority claimed by the Harbin Executive Committee and that exercised by the Delegates; General Horvath meantime trying to keep equilibrium between them. While the Executive Committee attempted to legislate for everybody, Chinese and foreigners not excepted, the Delegates were busying themselves at persecuting everyone they could label "Bourgeois." They ousted all officials, military or civil, who were not to their liking, when they could agree among themselves on the action; and the only reason they did not banish Horvath was that they could not reach an agreement. The local police disappeared, and the Chinese authorities discreetly withdrew. Russian exiles returned from America and other foreign countries in great number to take part in the spoils of disintegrating Russia, and in Harbin enjoyed special freedom of speech and action.



YENESEI RIVER AT KRASNOYARSK

The second revolution in Petrograd produced no special effect in Harbin beyond that of increasing the number of idlers and consequently the amount of confusion. Refugees poured in from Russia and soldiers from the deserted front filled the streets. Murders mutliplied: robberies and violations of women were not only a daily but an hourly occurrence. Every man carried a gun for his protection. The Railway authorities seemed to try their best to maintain order, but the lack of harmony between the various political factions and the utter absence of control over the individual soldiers made all their efforts futile. Wherever three or four soldiers gathered together they arrogated to themselves the functions of a government *de facto*.

By the end of August it became apparent that the Railway authorities were powerless to enforce law or maintain order. The Delegates (really Bolsheviks) had every other political faction thoroughly cowed, but were unable to exercise any control over their own units. It seemed plain that unless the local authorities could unite upon some strong restraining policy it might be necessary to ask for outside intervention. The foreign Consular representatives, who had hitherto always acted independently of each other, now organized themselves into a cooperative body. They endeavored to induce the nominal Russian authority, General Horvath and his organization, to take a definite stand in restraint of the soldiers, but the Railway Administration was completely disorganized. Efforts were then made to induce the Delegates to at least assume control of their own factions, but it was found that they had neither the experience nor the character to accomplish this, much less to run the affairs of the Railway Community.

These intolerable conditions continued until the first week of November, 1917, when the Bolsheviks, having seized Petrograd from the Kerensky Government and arrested its Ministers, sent orders to the Delegates to take over control of the Railway Zone from General Horvath, who still represented the Kerensky Government. The Consular Corps informed General Horvath that it would decline to recognize the administrative authority of the Delegates in Manchuria, but that it looked to him for full responsibility, and promised him its full support if he would take forcible measures to maintain the authority vested in the administration of the Chinese Eastern Railway. Failing this, the Consular Corps announced that it would probably ask the Diplomatic Body in Peking to request the intervention of China, or, if necessary, the intervention of international troops. General Horvath found himself powerless to act, and the Bolsheviks received the position of the Consular Body with defiance. On November 22nd the Consular Body drew up a formal program for the intervention of China or of international military police, which it demanded that General Horvath accept. Horvath asked for a few days in which to endeavor to reassume control with the submission of the Bolsheviks. Reinforced, however, by a telegram from the Lenin Government authorizing them again to take over control of the Railway Zone, the Bolsheviks demanded of the Railway Administration submission to this full authority, and on December 5th General Horvath weakened sufficiently to agree to a joint administration with them.

This the Consular Body declined to consider. In view of the reports that the Bolshevik Government at Petrograd was preparing to sign a peace with the Central Powers it was especially concerned with the action of the Lenin Government in establishing a Committee here which should have the monopoly of controlling all exports across the Russian boundary. The Chinese Government had now been aroused, and on December 5th the Taoyin, Sze Shao Chang, informed representatives of the Consular Body that the Chinese Government was prepared to oppose Bolshevik participation in the administration of the Railway Zone. Chinese troops had been hurried up from Kirin and were barracked within call. The next three weeks were days of temporizing, jockeying between Horvath and the Bolsheviks and the Foreign Consuls, with the Chinese authorities quietly making preparations under the direction of the Allied Ministers, to intervene by military force if called upon. On December 12th the Delegates physically assumed control of the Railway Administration and persuaded General Horvath to agree to act with them. The Consular Body arranged with the Chinese Taoyin to have 3,500 Chinese troops in Harbin by that evening. It did not appear, however, that the Chinese authorities could be relied upon; the situation obviously had their knees shaking. On December 18th the Delegates issued their famous Order No. 1, dismissing General Horvath and various other officials from their positions and appointing certain of their own members to succeed them. The Consular Corps immediately called upon the Chinese to bring troops into Harbin and to restore Horvath to his position. Two Chinese generals who had been sent up from Peking responded with about 7,000 troops, which were stationed in or near the Chinese town of Fuchiatien.

The Chinese, however, hesitated to act, and spent some days parleying with Horvath and with the Bolshevik leaders, Rutin, Slavin and Lutsku (afterward ringleaders in the massacre at Irkutsk, in Siberia), who meantime were putting their various measures into effect. On the night of December 24th the Acting Russian Consul-General called on the American Consul and stated that the situation was intolerable. The factions opposing the Bolsheviks were powerless, the Chinese were afraid to take any initiative, and the Railway Zone was under the command of unrestrained anarchists. He appealed to the Consular Body to take the situation into its own hands, and was prepared to ask for the exercise of force.

On Christmas morning, December 25th, the British. French, Japanese and American Consular representatives called upon the Chinese generals and the Taoyin and formally insisted that the Chinese move; and the Acting Russian Consul-General then appeared and suggested the use of force. In the afternoon of Christmas Day the Chinese formally delivered an ultimatum to the Bolsheviks, demanding that they withdraw their claims to administration in the Railway Zone and disarm their soldiers by 7 o'clock on the following morning. The ultimatum was delivered at 3 o'clock in the afternoon and at 6 o'clock the Bolsheviks, learning that the Chinese had 10,000 troops at hand, accepted the ultimatum.

During the night it was learned, however, that the Bolsheviks meant to repudiate their agreement and to attack the town at daylight. The Chinese were notified and their military forces hastily brought into position around the two main Bolshevik positions. Shortly after dawn the Bolsheviks were called upon to surrender; there was a show of resistance and a fight ensued which resulted in the surrender of the Bolshevik regiments shortly after 9 o'clock in the morning. Several soldiers were killed on both sides, but their combined losses did not equal the number of school children and pedestrians that were killed. That night and in the following three days the disarmed regiments were put on trains and sent beyond the frontier into Siberia. However, their leaders, Rutin, Slavin and Lutsky, were permitted to escape.

By this triumph of Chinese arms the Railway Administration was restored to nominal control of the Railway Zone; not however, to its old authority. The power of the foreign representatives was realized for the first time by the Russian community, and their full control over the interests of their nationals completely admitted. The Chinese, for the first time since the treaty of 1896 alientating the Railway Zone, found themselves in the position of exercising sovereign rights within their own territory. They established military police throughout the Russian settlement, set up a Chinese Customs station at Harbin and other railway stations, with the power to examine for customs purposes such trains as they saw fit. With the approval of the Allied Powers they established a bureau for the examination of passports at Harbin and at the frontier stations, and placed an embargo on exports across the Russian boundary. The Russian stranglehold on North Manchuria had been broken at last.

The Railway Administration is still recognized by the Chinese and, pending the establishment of a substantial government in Russia, by the foreign representatives likewise, as the administrative authority over Russian interests in North Manchuria. Dominating it, however, is the sovereignty of China, with its military support ready at any moment to intervene and compel submission to the interests of the whole community should that be necessary. The functions of the Consular Body are exercised in harmony with, but independently of, both. A more complete revolution of conditions in North Manchuria could hardly have taken place.

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# Co-operative Societies in Siberia

The "Goles Primoria" gives some interesting facts about the Co-operative Associations in Eastern Siberia with especial reference to the Maritime Provinces, says the Vladivostok correspondent of the "North-China Daily News."

We find that the Co-operative Associations of Amur, Saghalien and Kamschatka provinces are united into five unions,

(1) The Priamurski Credit Association, the headquarters of which are in the town of Nikolsk-Ussuriisk. It was founded on November 9, 1917, and has for its sphere of operations the Primorski province. It gives its own members credit and buys agricultural machinery, stock, farm implements, twine, etc., on commission and also buys for its own members farm produce. Its credit with the Moscow-Narodny Bank is to the extent of four hundred and twenty-five thousand roubles. Its balance on May 1, 1918, was Rls. 663,647.

(2) The Union of Priamurski Co-operatives with head offices at Vladivostok; founded February 19, 1916. Sphere of influence is the Maritime Province (the Primorski province) and parts of Kamschatka and Saghalien. This union has for members 349 associations, consisting for the most part of Co-operative Societies together with some artels and other manufacturing associations. Its credit with the Narodny Bank amounts to Rls. 350,000 while its balance on October 1 was Rls. 5,131,150.

(3) The Amurski Provincial Union of Credit Co-operatives, whose head office is Blagovestchensk, with the Amur Province as its sphere of activities. Its balance on October 1, 1918, was Rls. 1,359,974.

(4) The Provincial Union "Amurski Co-operative," which also has its head office at Blagovestchensk and also works in the Amur province. But while the union mentioned above—No. 3—has affiliated *credit* societies, No. 4, has 254 Co-operative Associations affiliated to it. It keeps a stock of goods in its own warehouses and sells to its members. Its credit with the Narodny Bank is Rls. 300,000 while its balance on November 1 was Rls. 4,330,726.

(5) The Yct-Amurski Union of Co-operative Associations, with its head office at Nikolaevsk-on-Amur. It was founded at the beginning of last year and operates in the lower reaches of the Amur and part of Saghalien. It unites about forty Co-operative Societies and artels. It has a credit with the bank of Rls. 275,000 and its balance on July 7 was Rls. 474,414.

## Big Co-operative Societies

This finishes the list of, so to say, local Co-operative Societies and unions. But the war, closing all avenues of egress and ingress from the west, left only Vladivostok open, and so from all the ends of Russia there was a never-ending stream of merchants and others flowing into this distant town on the hunt for goods of all kinds. And among these were the central Co-operative Societies which opened up branches at Harbin, Vladivostok and also in Japan, China and America. Of these the following are the chief:—

"The All-Russia Central Union of Co-operative Associations, or the "Centro-Coyuz." It exercises its influence chiefly in European Russia. It controls about five hundred provincial and district unions, having about 40,000 shops for the distribution of its goods, and reckons its subscribers at about 25 millions. Its branches are to be found in the following towns:—Moscow, Petrograd, Archangel, Murman, Helsingfors, Odessa, Rostowk-on-Don, Astrakhan, Samara, Simbirsk, Ufa, Tsaritsin, Saratow, Ekaterinodar, Omsk and Vladivostok.

It also has agencies in London and Shanghai, and in the near future intends to open agencies in New York, San Francisco and Kobe. At the present time the reserve capital of this union is about ten million roubles and its working capital about thirty. Its turn-over in 1917 was 250 millions and to date in the present year is more than 600 millions. From the beginning of 1916 the centro-Coyuz began to open its own factories, of which it now has about twenty, consisting of chemical, confectionery, tobacco, match, footwear, soap, thread, brick, some mills, and some fishery undertakings.

The peculiar conditions of Russian life, however, the revolution, disorganization of transport, absence of raw material, etc., have had an adverse influence on its undertakings and their output is not very great when compared with their size, being on an average only about sixty millions per annum for the last three years.

## The "Zakupsbit"

The Union of Siberian Co-operative Unions, "Zakupsbit," opened in June, 1916, and unites 29 unions of Co-operative Societies of various kinds in Siberia and the Steppe country and 9,169 Co-operative Societies in the Rostow-on-Don district. Its members number about 2 millions and it controls capital to the extent of 20 millions. It buys wholesale for its affiliations, and gathers and sells their furs, wool, etc., and has its own factories and mills. Its head office is at Novo-Nikolaevsk with agencies in London, Moscow, Ekaterinburg, Omsk and Vladivostok, and sub-agencies in many other towns of Russia. Besides its London office, it has offices in New York, Kobe and San Francisco. The Zakupsbit started with its own capital of Rls. 93,642 in 1917 and finished the year with Rls. 2,166,914; in October last its capital represented 8 million roubles, while the turn-over for the ten months was Rls. 91,073.

## Credit Unions

The Union of Siberian Credit Unions, "Sinkredcoyuz," opened in September, 1917, and unites 28 unions of Credit Societies and 1,100 credit and loan associations in the governments of Altai, Semipalatinsk, Semipiechinsk, Tomsk, Turgai, Yenisei, Irkutsk and Zabaikal. Its head office is at Novo-Nikolaevsk, with offices in Petrograd, Moscow, Ekaterinburg, Omsk and Vladivostok, while it also has offices abroad. It carries on the purchase and sale of farm products and machinery and has its own factories, foundries and mills. News has just been received that the

Sinkredcoyuz has united with another similar institution, the "Uralo-Siberian" uniting the co-operative credit unions of the Ural region. One administration has been formed and the capital has also been united. This step is welcomed as uniting the efforts of two similar unions and increasing their capital and preventing useless competition between organizations with the same end in view.

Finally, there is the Union of Siberian Buttermaking Artels, which was formed in 1908. At the present time it unites more than 4,000 buttermakers' artels and their shops in the Tobolsk, Tomsk, Altai, Orenburg, Turgai, Akhmoinsk and Semipalatinsk governments. Its head office is at Omsk, with an office in London and branches in thirty-three towns, chiefly in Western Siberia and the Steppe country, with buying offices in Vladivostok, Ekaterinburg, Irkutsk, Samarkand, Samara, Tyumen, Tobolsk, Kranojarsk and Harbin.

## Educational Work

This union organizes buttermakers' artels and shops; and Co-operative Societies. It trades in butter and other farm products, fits up butter factories and supplies them with the necessary repairs and so on and supplies its affiliated co-operatives with goods bought first hand and with other things necessary for village life. The general turn-over for the first ten months of the current year was more than two hundred million roubles.

All the above-mentioned co-operative unions carry on at the same time a very widespread educational work, opening special courses for specialists, courses in book-keeping, commercial arithmetic, general knowledge, etc., and in many places have opened schools for the villagers, and also have their own special publications.

The financial centre both for Siberian co-operatives and for the above-mentioned central organizations, is the Moscow Narodny Bank.

# Textile Industry Possibilities in Eastern Siberia

In making a plea for the establishment of textile industries in Siberia to take the place of the destroyed and disorganized mills of Russia, the correspondent of the "North-China Daily News" says: The region around Vladivostok presents an ideal centre for the establishment of such industries as Moscow and Lodz were famous for, and it is only in this region that a broad and profitable textile industry can be established.

Geographically, also, Vladivostok is in a most favorable position, being situated so that it is accessible all the year round, so that raw materials and machinery can be easily delivered. Raw cotton is, so to say, under its very hand in India, Cochin China, South China, and even Southern Manchuria. The distance to the factories is not so great as from these places to London or Liverpool, or even as great as from New Orleans to these ports, to say nothing of Petrograd or Riga. Wool of the finer sort can be obtained in the province itself, and from Australia, which again is nearer to Vladivostok than to Europe. Raw silk is to be had for the asking from both China and Japan. Jute and Manila hemp are also nearer to us than to Europe or America, while flax of the very best sort may be had in abundance in the Maritime and Priamur provinces, and very likely in Kamchatka also, while it is well-known that Western Siberia and the Yenisei government are both favored with climates and conditions for the cultivation of flax in great quantities. There is no doubt that the cultivation of flax in the Maritime province can also be intensified. Hemp grows wild everywhere in the province and steps for its proper cultivation can easily be taken. Manchuria is also another source of supply. In passing, it may be remarked that the Far East is the native country of the flax, as it covers the steppes of Zabaikal and Mongolia in a wild condition.

As regards wool, the finer breeds of sheep may be raised in the Zabaikal province, while Mongolia will supply us with an inexhaustible supply of coarse wool. In brief, here are all the conditions necessary to making the textile industry a success, an abundance of raw material and easy maritime transport. In addition, the littoral controls what the Moscow region never did, and that is a supply of cheap and abundant fuel of good quality. And more than all, it is not necessary to buy fuel from other countries. It is found all along the shores of the Sea of Japan, while in Saghalien there are untouched deposits of coal and oil awaiting the miner's pick and the geologist's drill. The development of the Maritime province into an industrial centre will make a sure and certain market for the coal and oil, and will in turn lead to the development of the mining industry in the region.

Take next the question of labor. There can never be a shortage of labor here, nor can labor take any high-handed measures as in other parts of the country because of the abundance of cheap and disciplined yellow labor to hand from Japan and China.

## Want of Capital

These factors all argue for the establishment of textile industries in these parts of the country. But an industry requires something more than favorable conditions for its development. It demands a market for its output. And no fears need be entertained on this score. First of all, Eastern Siberia itself will absorb a goodly portion of the manufactures, while Manchuria may also be reckoned upon to take a certain percentage for in ante-war times, these parts absorbed more than seventy million roubles worth of textiles from the Moscow region, and that was when the best of manufactured material cost something over two roubles an arsheen, while the cheapest cost from six to nine copecks. Western Siberia also and a certain portion of European Russia may be relied upon because the transport of manufactured material in compact bales by sea to Odessa is much cheaper than the transport of raw material in unwieldy and bulky packages from Turkestan to Moscow by rail, or by river. There is also the Chinese market, where Russian textiles successfully competed with the products of other countries, and where they can compete with still better success if the long haul from Moscow to the Chinese frontier is abolished. One of the chief factors in the development of this industry would be the creation of Vladivostok into a porto-franko, a free port, in order that raw material may be imported free of customs dues and thus reduce first cost. These, in brief, are the reasons for the establishment in the Russian Far East of a textile industry. The chief drawback, however, would seem to a lack of capital sufficient to start the industry and place it on a sound footing, but if proper inducements are held out, it is quite within the bounds of possibility that foreign capital will find its way into the country to the mutual benefit of both borrower and lender.

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At the recent annual meeting of the shareholders of the Hongkong & Shanghai Banking Corporation the Chairman emphasized the very serious deterioration in the financial position of China which a review of the past twelve months revealed. "The exactions of futile civil wars, chiefly kept up for the benefit of rapacious and despotic tuchuns, and the maintenance of a huge army imposes upon the Central Government a monthly burden of $15,000,000. Until China is relieved of this military tryanny, all her efforts at financial and adminstrative reform will clearly be fruitless. China cannot go on borrowing for ever, and at a time when all the resources of the world are wanted for the urgent needs of reconstruction, she can expect little assistance from outside. Assistance she must have to rid her of the military parasite which is draining the vitality of the country and paralysing every effort of reform. It is earnestly hoped in this, as in other respects, that the claims of China, which cannot be ignored in any scheme of world reconstruction, should be accorded the consideration which is their due by the Conference at Versailles."

Experience has abundantly proved that the only path for China lies in economy, the patient development of her own resources, the employment of capable and sympathetic foreigners, not as advisers but as executive officials with the power to carry out necessary reforms, and, above all, the sinking of Party differences for the common good.

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# Getting Rid of Extraterritoriality

The restiveness of China under the conditions of extraterritoriality which have been imposed upon her, and the encouragement which her representatives are receiving from certain quarters to demand an amelioration of those conditions makes pertinent a brief review of the probable conditions of such relief. The Far East has afforded some illustrations upon this subject within the memory of the present generation.

It will be remembered that Japan was opened by means of a demonstration of force on the part of the United States, that at first her gates were kept open to foreign intercourse only by the constant menace of that force, but that soon her more progressive statesmen came to look upon the foreigner as an example to be emulated rather than as a "western devil." Japan like China was hedged in by tariff agreements, extraterritoriality, foreign concessions and trading provisos. Her leaders were quick to see that these things were a limitation of sovereignty. They also perceived that the only chance of extricating Japan from this position, which they considered to be humiliating, was to make Japan as modern and as strong externally and internally as these same foreign nations; and to do this they must use foreign tools, education and methods.

The thoroughness with which Japan studied foreign institutions, the zeal with which she brought from other lands the best talent which could be employed and placed her sons under their tutorship, needs but mere mention. But even so, great care had to be used to introduce foreign elements gradually—no faster than the mass of the people could become accustomed to them and ready for them, lest the opposition should not only depose the reformers from power, but kill the reform cause itself with the result that Japan forever remain in the position of semi-thraldom in which they conceived her to be. Japanese statesmen were in a difficult position—between two fires—the conservatism, if not hostility, to change on the part of the Japanese together with the necessity of time in which to build up a reform spirit on the one hand, and on the other hand the impatience of the foreign Powers with their temporizing policy and their constant demand—their seeming greed for privileges. In fact Japan did not escape considerable internal disorder, and this circumstance did not fail to lead to serious doubt as to whether Japan was capable ever of putting on modern ways. Yet throughout this trying period, the policy of Japan was fairly consistent toward making herself fully sovereign and equal to western nations in civilization, diplomatic prestige and military power.

Article II of the treaty of 1866 between Japan and the Powers had provided that after July 1, 1872, the treaty might be revised by mutual consent of the contracting parties. On July 1, 1872, the other Powers were not willing to consent, nor for a long time after. The Powers were not disposed to grant more favorable tariff rates to Japan and had no intention of giving up extraterritoriality privileges, as they did not feel that Japanese law was efficient enough to make such a step safe for foreigners in Japan. So the Japanese devoted their attention to developing their legal procedure and improving their internal administration so that they might answer this objection, and thus be in a position to demand the return to them of the lost elements of sovereignty upon the terms which had been laid down. The United States had already consented to a revision of tariffs and a modification of extraterritoriality, but the other nations would not do similarly, and nothing came of that attempt. But in 1882 the Japanese Minister of Foreign Affairs intimated that the privilege of trading anywhere in the empire might be granted in exchange for the relinquishment of extraterritoriality rights. The American Minister, Bingham, expressed an opinion favorable to such a proceeding. Nothing came of this, either, but it indicates that in the United States there was a kindly feeling toward Japan which found expression when in 1884, in his message to Congress, President Arthur asserted that "This government recognizes the equal and independent station of Japan in the community of nations." This feeling had a more tangible expression in the extradition treaty of 1886, and no little satisfaction was felt over this being the first of its kind concluded by Japan.

In 1887 the question of general revision of the international status of the situation was again under discussion at Tokyo. The foreign Powers were still afraid to trust Japan to protect foreigners in Japan, and inserted an article into the proposed treaty which provided for a jurisdictional convention upon which foreign judges should sit and before which cases affecting foreigners must be tried. The Japanese objected to this clause, as merely changing the form of foreign jurisdiction without changing the principle of extraterritoriality. No agreement was reached and the convention adjourned *sine die* to give Japan a chance to show the result of the codification of her laws. The London "Times" of March 8, 1889, states that a treaty lately had been negotiated between the United States and Japan on the basis of equality. Again on April 26 it mentions the same thing, and adds that one had previously been concluded between Japan and Mexico and urges England to follow suit. No trace of this is to be found in American diplomatic papers, but Dr. Nagao Ariga, in "Japan by the Japanese" confirms the statement and points out that negotiations failed because the publicity given by the London "Times" enabled the Japanese themselves to raise an opposition. The opposition was based upon the feeling that the equality to be secured was more in name than in fact, because of a provision that admitted to certain judgeships only naturalized Japanese citizens—these judges to have charge of cases involving foreigners. This opposition culminated in an attempt on Count Okuma's life, his severe disablement, and a consequent lull in the efforts of his following to gain treaty revision.

Political complications followed. Cabinets rose and fell in quick succession. So the subject was not pressed for about four years. But in July 1894 a treaty was concluded with England such as the Japanese had been working for. It was not to go into effect immediately, but only after July 17, 1889, five years later. In the November following a similar treaty was concluded with the United States. The treaty consists of twenty articles, the more pertinent of which are—

I. Full privileges are guaranteed to the citizens of each country while in the other country.

II. The right to trade freely in every part of each nation is granted to citizens of the other nation.

III. Private dwellings are made inviolable.

IV. and V. Discriminating import and export duties are forbidden.
XIV. Most favored nation clause.
XV. Enumerates consular privileges.
XVI. Trademarks held by citizens of either nation are to be protected by both.
XVII. The several foreign settlements in Japan from the date of the treaty were incorporated with the respective Japanese communities and thenceforth formed parts of the municipal system of Japan.
XVIII. "From the same date (date of the treaty) the jurisdiction then exercised by the United States courts in Japan and all the exceptional privileges, exemptions, and immunities then enjoyed by citizens of the United States as a part of, or appurtenances to such jurisdiction, shall absolutely and without notice cease and determine, and thereafter all such jurisdiction shall be assumed and exercised by Japanese courts."
XIX. The effective date of the treaty was fixed for July 17, 1899, to remain in force for twelve years, after which it could be abrogated on twelve months notice.

Ratifications were exchanged in February of the following year. On the same day as the treaty was drawn, a protocol was agreed upon which declared Articles IV and V of the treaty to be in force at once. These referred to equality of import duties and consular privileges. The protocol provided further that the passport system be extended so as to give American citizens privileges of travel throughout Japan. In effect this put Art. I into partial effect immediately.

Just before the treaty was to go into effect the American Minister received many memorials praying that the treaty be not put into force, alleging that the Japanese government could not give adequate protection, that her court facilities were inadequate, and that her prison practices were barbarous. The objections were answered by Secretary Hay, who took the position that the treaty should have a trial before being condemned. On July 17, 1899, it went into force, as agreed, and Japan has ever since been a full and equal member of the family of nations.

Now, the procedure of China from the days of exclusiveness to those of full participation in international affairs has resembled in broad outlines that of Japan, so far as she has gone. The rest of the way cannot be much dissimilar. Compare the conditions in Japan in 1895 with those in China to-day as to internal quiet, codification of laws, experience with judicial procedure, integrity of judges, ability of the executive power to enforce the judgment of the courts, and one derives an exact measure of how far China has yet to go before she may attain the Promised Land of full sovereignty. Whether Japan was wise or foolish in refusing certain ameliorations of extraterritoriality upon condition of foreign participation in her court procedure, China no doubt will have to pass judgment. But apparently that is the only short cut which all the years have suggested. Those councillors who would have China expect more put themselves under two suspicions; one, that by asking this, China may be diverted from asking more vital and more attainable rights; second, that if a large measure of relief from extraterritoriality were to be obtained by China, her lapses under the new *régime* would be an opportunity and justification for armed occupation as a vindication of "national honor."

## Tackle the "Soldier" Problem!

We have frequently urged that the first problem that China must tackle in the work of reorganization which must take place before she can legitimately aspire to recognition as a first-class Power is that of the so-called "soldier." We have already made suggestions to this end, and we return to the charge, because it becomes more and more obvious that those Chinese who desire reforms must have help if they are to carry out their desires. Here is a programme which might form the basis for action in an effort to transform what is now a curse into a useful section of society.

A re-organization loan of considerable proportions will be required, but there is no lack of funds for worthy purposes. No one subject can be taken up absolutely independently of another, but along with construction of additional railways, building of highways, reforestation, and conservancy, disbandment of troops can be attempted with some hope of success. Pure disbandment never disbands. The £25,000,000 Re-organization Loan of 1913 proves that. A half million men can not be released from all discipline merely to run wild. They must be fed. They can be fed cheaper as soldiers than as bandits. And the means must be devised by which to prevent them from being re-recruited a week or so after they have been disbanded.

Suppose now that the size of the re-organization loan is tentatively fixed upon. The next step is a division of this loan between the several projects of most pressing importance. The big obstacle in the way of disbandment of troops has always been arrears in pay. A certain amount would have to be set aside for that. The most important railway job should be fixed upon, and a sum fixed for that. So also with highways, reforestation, conservancy and what not. Preparations should next be made for the definite prosecution of these jobs, sites for labor camps fixed, lines of communication established and so forth. When work is ready to proceed at any one of these sites, the disbandment of soldiers a reasonable distance away may proceed.

The first Re-organization Loan disbandment proves that the mere signature of the pay roll by the recipient of the money does not get him disbanded. It merely proves to the soldier that sticking around pays in the long run. If that individual soldier should actually go home, the Tuchun can easily recruit another and arm him with the gun which the discharged soldier laid aside. Hence, every man discharged should deliver up a rifle. This rifle might be considered as part security for the loan, and should be sent to Peking, there to be kept in safe custody and as a reserve supply of arms for use in emergency. Perhaps it should be placed in the custody of the loan agent, to be released to the Central Government only in case of great danger, except so many as may be required to arm a national constabulary. With this supply of arms in Peking under the direct control of the Central Government or at least where the Tuchuns could no longer get possession, the Central Government would be in a position to enforce its mandates, and the recalcitrant Tuchun powerless to resist. Any attempts at "gun running" on the part of a Tuchun would, of course, bring down upon his head the wrath of the Central Government, which would be supported by the Loan Agent.

Close to the disbandment office, should be a labor registry office. Here the disbanded soldiers should be enrolled as a labor corps, after which they should receive the first instalment of their back pay. As soon as a train load was available, the men should be put aboard, and sent to the site of their future careers as construction forces. These construction camps should be sufficiently prepared so that the men can be sheltered and fed, and thus reduce the temptation to desert to its lowest terms. A full stomach and warm shelter will look good when the alternative must be faced without weapons. Perhaps at this point a further instalment in arrears of pay might be made, but the smaller the instalments the greater likelihood that the men will stay on the job. The remaining installments should be distributed through several months and be conditioned upon faithful completion of each month's service.

To this plan, objection number one is that these men will not work. The objection is valid as far as it goes. Undoubtedly they will not be first class laborers. The jobs will cost more with this class of labor than under ordinary contract methods. But by applying contract methods some results can be obtained. For sometime to be sure these men would be unable to do as much work as regular coolies, for it will take a season of hardening to get their muscles into working condition and to accustom their minds to the change. But the end is worth considerable cost. This seems to be the cheapest price at which it can be attained. Most of these soldiers were coolies once, they can be coolies again. Banditry without arms will not look promising. Under the duress of an empty stomach and a thin coat in winter, who will measure the change in ambition on their part?

Objection number two is that the Tuchuns will not allow their men to be disbanded in the first place. Here is where the Central Government must have help. It will be remembered that the Consortium Group Banks have the support of their respective governments in any approved dealings which they are to have with China. If any Tuchun evinces any desire to prevent his government from carrying out its agreements with the Consortium Group, it is perfectly within the province of the Central Government to accept the assistance of the foreign Powers involved. A few British vessels on the Yangtze and off the coast, a detachment of American Marines, a few French airplanes dropping mustard gas bombs and following up with machine gun fire in support of the loyal Chinese forces, would soon bring such truculent braggarts to their senses. Their forces are utterly without defences against such forms of attack. Their men have only rice-bowl loyalty. The job would not be hard. The conflict would be very brief. And one lesson would be enough. The project needs only a little planning, a little resolution. There are abundant reasons why the Allied Powers should be willing to help China at this juncture, but they need not be detailed here. There is practically but one reason why they may not help her, and that is because she may refuse to be helped. There are people who will starve before they will accept charity, and in a way we admire them. There are wives who have been killed by brutes of husbands before they would admit to a brother the failure of their family life. Public sentiment hardly approves of that degree of pride. We know the pride of the Chinese people, of their reluctance to accept help from without in the settlement of their domestic difficulties. But would a Chinese business man refuse to accept a loan which would keep him from bankruptcy? How should the Chinese look upon help in the present emergency—from the standpoint of sentiment or that of good business? Besides, they have been accepting help of a sort—of a sort that sells the freedom of generations to gain a respite of a moment. Why not get help for a fair price, and in a way that will be effective?

# Internationalization of China's Railways

Within a very short time it is expected that various matters pertaining to the international relations of China will come up for adjustment. The Paris peace conference will in great measure force this, and, if the Chinese peace conference amounts to anything it should certainly bring to the table all subjects which may escape the Paris conference and which may directly or indirectly affect the progress and well-being of the country. As foreign policy in China is to a large extent embodied in the various railway loans and concessions it is natural to suppose that they will receive early consideration. They constitute one of China's most important problems, not only because of the varied nature of the conditions under which the individual railways were built, but because it is becoming vitally necessary to have some settled policy established for their proper development. The lines which now operate in the country were constructed in a haphazard manner by different nationalities, mainly in satisfaction of political ambitions, and as a consequence there exist innumerable anamolies, and heterogeneity instead of homogeneity in management. Nominally all except the South Manchuria Railway, the Chinese Eastern Railway and the Yunnan Railway are under Chinese control, but the method of construction and operation were originally laid down according to the practice obtaining in the country of origin of the loan raised for construction purposes and not according to any standard for China Only recently the accounting systems were revised and unified, but there standardization ends.

Prior to the war international jealousies prevented any serious effort being made to unify management or to systematize development. Agreements held by one Power or another were constantly being exhibited to prevent others from effecting expansion in particular districts, or even provinces, and with the curtailment of finances caused by the war the holders of agreements were compelled to suspend construction and even surveys. China herself could not lay down any particular system for future development, even if she desired to do so, because chief technical considerations concerned with expansion depended upon the good will of holders of agreements for lines already terminating at the chief ports and trade outlets. With the principal terminals for trunk lines already held it was difficult for any new combination of railway financiers to secure an entry for a comprehensive, commercially possible proposition; but now the war is over, now that the international family has found itself and is grouped under a League convention, old-time doubts and prejudices and jealousies in China will surely be abandoned. One strong reason for this so far as Chinese railways are concerned is financial. Holders of agreements for many miles of projected railway will not be able to find the money to build the lines, and it is inconceivable that a country like China is going to be condemned to stagnation solely because those who can find the money cannot find the opening to utilize it. British feeling is all for a revision of existing arrangements in order to permit of natural development, and the only way to effect such a thing is to put all the railway loans and agreements and concessions into the melting pot—pool them, in short. By doing this internationalization of the loans will be effected, and internationalization properly effected will mean that the people with the money will be able to participate on equable terms with the people with the agreements, and all will co-operate in future development.

In a future issue we will enlarge on the whole of this question. At this stage we merely wish to emphasize the necessity for internationalization, and the simplicity of it. Agreement between the government concerned in the loans would quickly lead to the establishment of working arrangements. A conversion loan would naturally be necessary. The lines already built under loan agreements or as concessions may roughly be assessed at £76,000,000, so a conversion loan of £100,000,000 would be sufficient to take over existing rights. Under the Chinese Minister of Communications a Committee of Management, a Board of Control, or a Railway Commission, or some such organization, could be established at Peking, with experienced and known technical railway experts to assist them, and under this body economies and improvements in management could be brought about calculated to net the Central Government much larger sums than they now secure, protect the investments of the bond holders, and provide the provinces with better service in the handling of both freight and passengers. Chiefly such a Board could control and develop extensions upon scientific principles, and enable the country to have and support the mileage of railways its population and latent wealth demand. Of the various foreign nations interested it is fairly certain that Great Britain, France, America, and Russia will be in accord with the proposal. What Japan will say is problematical, though the claim is sure to be advanced that the South Manchuria system stands on a different basis from any other for the reason that it was part of the spoils of war. It is generally known too, that Japan holds the system not only for its commercial advantages but also for its strategic value, and it is likely that the argument will be deduced that it must be retained by Japan solely to intercept possible aggression from the north. The answer to that is as complete as it is emphatic and obvious. If the railways are internationalized automatically an international guarantee is given against any possible form of aggression across the railroads. From a financial and economic point of view, too, it seems perfectly plain that in the legitimate development of commerce Japan would be better placed by having participation in all railway development, the supply of materials and the transport facilities afforded by a huge national system, than by a perpetuation of conditions as they now obtain. If the question of internationalization develops as there is every likelihood of its doing, then Japan will have to decide between intensive political railway development in a restricted sphere, and under conditions of great distrust on the part of the other Powers, on the one side, and, on the other, whole-hearted co-operation and participation in the many thousand miles of lines which will certainly be constructed in China within the next decade. Altogether nationalization seems to be the only solution of China's railway problem, but everything depends upon how far the foreign powers concerned are desirous of promoting commercial and industrial development in general and of aiding China to put her house in order in particular.

Since writing the above the question has been brought into the sphere of practical politics by a group of Chinese in Peking who wish the matter dealt with by the Paris Peace Conference. Strong opposition has been raised by other Chinese to the proposal, and as we go to press a warm controversy is proceeding, with the opponents claiming that they have managed to have the proposition shelved.

On Sunday, February 23, the People's Diplomatic Association at Peking held a mass meeting at which was disclosed the message sent to the Peace Delegates at Paris. The proposal does not attempt the internationalization of the railways, or even joint-control, as alleged by the opponents, and is calculated to abolish "spheres of influence" and make the "open door" effective. Peking telegrams declare that the Japanese interests are strongly in opposition to the movement. The proposal put to the Chinese Peace Delegates for submission to the Conference was as follows:

"All railways already constructed, now under construction or to be constructed under existing agreements by foreign capital or foreign loans shall be consolidated under one uniform management and their capital and loans shall be consolidated into a joint loan with the said railways as joint security.

"The Chinese Government shall employ foreign experts to assist the Chinese in the administration of the railways until such time as China shall have repaid the loan.

"All matters concerning transportation shall be under the control of the Ministry of Communications and subject to Chinese law."

# The Recent Sino-Japanese Incident

The echoes of a statement made before the Peace Conference at Paris by the Chinese delegates, Dr. Wellington Koo, Chinese Minister at Washington, and Mr. C. T. Wang—who went to Europe to look after the interests of the "Constitutional," or Southern Government, established at Canton—reverberated throughout China to some purpose early in February. The delegates apparently took the opportunity to lay before the Peace Conference some of China's claims to the recovery and free exercise of her sovereign powers, and incidentally exposed in an unpleasantly frank manner the salient features of the notorious Twenty-one Demands, and other activities of The Japanese Military Party in China. Though the Military Party of Japan may endeavor at this late stage to convince the general public that it in no way sought to control China's attitude at the Peace Conference, the general public are likely to remain distinctly sceptical. No sooner did the Chinese delegates express themselves with regard to their country's grievances than the Japanese Delegates at the Peace Conference telegraphed to Japan requesting that some steps be taken in Peking to prevent a recurrence, or to obviate any action being taken not previously confirmed by them. How ever this request was submitted to the Japanese Minister by the Japanese authorities, how ever it was expressed to the Chinese at Peking, the fact remains that it is believed generally in China that the Japanese Minister, Mr. Obata, was forcible in his attitude, "rattled the sword in the scabbard," and was generally minatory in his speech with the Chinese acting-Minister of Foreign Affairs.

Mr. Obata called on the acting-Foreign Minister, Mr. Chen Lu, on Sunday afternoon, February 2, and the report circulated by the press as to the nature and bearing of that interview had the leading Chinese in the Treaty Ports in arms within forty-eight hours. It was originally reported by the foreign correspondents of Peking that Mr. Obata protested against the threat made in Paris by the Chinese Delegates to expose certain secret agreements, and against their attitude in acting independently of the Japanese delegates in matters relating to China, and that in doing so he threatened to penalise the Government. It was reported that he suggested that seventeen million yen outstanding with regard to a loan of twenty million yen for the "War Participation Bureau" would be paid the Peking Government if they agreed to meet Japan's wishes with regard to the Peace Conference and that if they did not wish to recognize the agreement then the loan would be cancelled upon the repayment of the three million yen already advanced. It was also further reported that Mr. Obata in dilating upon the situation stated that no help could be expected from Great Britain, which was engrossed with internal disturbances, and that Japan was near at hand and had an unemployed army and navy.

The circulation of this report, as can be imagined, produced an immediate response in the shape of an outcry throughout the country. The Southern Peace Delegates, and institutions of all kinds, flooded Peking with telegrams urging, and begging, and praying Peking to withstand the newest Japanese form of demand, and wires by the score were sent off to the delegates in Paris imploring them to stand firm and place China's case as fully as possible before the international delegates.

In general the Japanese Minister's visit, evil or innocent though it may have been, roused an outcry the very spontaneity of which caused certain Japanese to declare that it was the result of some sort of conspiracy, and some papers went so far as to endeavor to lay it at the door of the American Legation and Consulates. The absurdity of such a thing is obvious, and if the Japanese Military Party fails to read what is the actual character of the writing on the wall disclosed by the agitation among the Chinese then it will have none but itself to blame if Japanese commercial firms and Japanese national interests suffer as a result of actions which can be construed by the Chinese to be against their national interests. The Japanese Military Party should know now that a new outlook is before China, that the Chinese understand the attitude of the Allied Powers, the importance of the League of Nations, and the significance of the world-wide changes in international relations, and that their possible attitude and actions are not to be measured by old-time standards. On any point touching their national honor the Chinese are liable to spring to immediate action, because they know that a League stands ready to protect the weaker nations in their fight for justice, for freedom, and for the right to exercise their sovereignty. Sentiment in China has changed significantly of late, a fact which the aggressive party in Japan will do well to note, and new inspiration comes not only because those who have fought to make the world free for democracy have triumphed but because public opinion is now more easily formed in China; because the country is awakening; and because there is a wider knowledge of world policies. The spontaneity of the resent outburst, based though it might have been on wrong information—we do not say it was wrong—is nothing more or less than an indication of the turning of the worm, and the proverb is as old as the hills that the worm will turn sometime some day.

What was really at the bottom of what will inevitably be known as "the Obata incident," it is not difficult to surmise, but how much truth there was in the allegations, how much justification for the construction originally put upon Mr. Obata's remarks must remain in doubt, for the simple reason that the actors in the piece all combine to deny that Mr. Obata was in any way improper in his observations or that what was said was possible of construction as damaging to China. These denials might be quite genuine, but if they are not accepted by the Chinese at their face value the Japanese must not be surprised. The Chinese and the foreign nations do not forget the denials and tergiversation connected with the Twenty-one Demands; they have before them several curious changes of policy on the part of Japan during the past year or two, and above all they see how the Military Party of Japan has been openly supporting the militarists of China in their efforts to maintain control of the country free from the safeguards imposed by properly established constitutional government. Possessed of feelings of this kind the Chinese people are left cold when the Foreign Office at Peking denounces the statements issued by the press; they frankly disbelieve the announcement made by the Prime Minister of Japan, and they take it as a natural thing for the Japanese Minister at Peking to disavow the allegations made against him. The Prime Minister of Japan, before the Budget Committee of the House of Peers on February 17, expressed the opinion that the rights and wrongs would ultimately become clear by the revelation of the facts, and that he believed that "facts would never be influenced by fabrications." There are many desirous of seeing peace maintained and progress facilitated in this part of the world who will hope with the Premier that the agitation was based upon wrong information, but all those who know China also know that it will be difficult for Japan to have credence accorded her official statements until the influence of the Military Party is removed and the government is directed by men who understand the temper of the world, who realise the importance of frank and friendly relations with China, and who cordially uphold the doctrine of the open door and equal opportunity throughout the whole of that country—in Manchuria or elsewhere.

There are constant expressions of friendship for China coming from official Japan, but are invariably immediately offset by actions of the Military Party of such a character as to make those responsible for uttering them look like callous triflers with the truth. This is known and deplored by all Japanese who have business relations with China, for they are the ones who immediately feel the reaction of political manifestations of a predatory nature, but as yet the great body of Japanese merchants and manufacturers have not risen to protest against the ridiculous acrobatics of certain politicians in their own country. When they do the Chinese mind will be able clearly to differentiate between those who are for them and those who are against them and they will be able justly to determine where responsibility lies for acts calculated to be unfriendly. It is idle for the Prime Minister to say, for instance, that "the policy towards China which Japan has in mind consists solely in making endeavors in accordance with justice and common benefits to bring about mutual understanding between the two countries," and that "Japan wishes whole-heartedly for a brilliant future for China," if within a very short while thereafter Japan assists to hit about three parts of the country over the head with a club in the shape of substantial pecuniary assistance to a militaristic coterie. What view the world, as represented at the Paris Peace Conference will take of the recent incident will depend entirely upon the deportment of the Japanese Military Party. If they show a disposition to place on the Conference table the military agreement with China and other secret contracts alleged to have been entered into in recent times and to offer a revision of the Twenty-one Demands, then the Chinese will see matters in a different light and the suspicion which exists so conspicuously will be dissipated and there will be no excuse for public exhibitions of feeling or private doubts. Japan can easily adjust the whole situation vis-a-vis herself in this country if she has the disposition to do so, and she alone can do it. If she fails to act then she must not take umbrage when a construction is placed upon the actions of her public men which is distasteful to her and which is regarded as unjustified. In a nutshell, the Chinese will continue to be cautious of Japan just so long as Japan passively accepts the ruling of the military party.

As we go to press we learn that the Japanese Government has decided to assuage public opinion in China with regard to the loan of Yen 20,000,000 known as the War Participation Bureau Loan. On February 25 Mr. Tang Shao-yi, the leader of the Southern Peace Delegation now in conference at Shanghai, received an intimation from the Japanese Consul-General at Shanghai, who acted on instructions from Tokyo, that the Government had decided to give China the opportunity to cancel the loan. Mr. Ariyoshi informed Mr. Tang that the Yen 20,000,000 had been deposited in the Bank of Chosen at Peking to the order, by stipulated instalments, of General Tuan Chi-jui and Mr. Tsao Ju-lin; that Yen 3,000,000 had been paid over at the urgent request of General Hsu Shu-chung (not the President); that the balance could not be stopped since it constituted part of a commercial transaction, but that the Government had instructed the Minister in Peking, Mr. Obata, to advise the Government in Peking against drawing further against the account. The Japanese Consul-General also intimated that if the Chinese Government would request the cancellation of the agreement the Japanese Government would comply with the request. To satisfy the South with regard to the supply of munitions and arms to the North the Japanese Government had, said Mr. Ariyoshi, taken steps to cause the company which had undertaken the order, from filling it—a step, the Consul-General explained, which indicated the sincerity of the Japanese Government since it was against its policy to interfere with commercial transactions. This message from Mr. Ariyoshi did much to pacify the Southern delegates, and modify their view. They have taken the Japanese Government at its word, and are hopeful that this action will be followed by others calculated completely to convince the people of China that Japan is sincerely desirous of seeing peace established and a stable government formed representative of the whole of the country.

## What of the Repatriated Disciplined Coolies?

A hundred thousand of China's best men, selected for good health, a strong body and a clear mind, have been disinfected, barbered, dressed in strong boots and clean, warm clothes, tenanted in sanitary and weather-tight houses, taught military discipline and courtesy, and then transported to France and trained in useful and skillful occupations. In France it appears that they have had the best treatment that Christian civilization could afford. All about them they have seen practical examples of our applied morality—self-sacrifice, unselfishness for the sake of ideals, personal honor, justice, equality. Under the aegis of the Chinese Labor Corps the hundred thousand very likely have proven once more that, given an equal opportunity under the white man's law, the Chinese reveal sterling qualities of the mind and heart. From the stories of their conduct which have come back from the Front, it seems that they have given a good account of themselves among skilled artisans and daring soldiers. In a year of example they have learned more of Western progress than would have resulted from a lifetime of precept in China. The hundred thousand are now returning to their homes. Fifty thousand of them have bank accounts with the Army Pay Office. Those with families have had the benefit of a monthly homeward remittance in the shape of a separation allowance. Altogether it has been estimated that the employment of the Chinese coolies by the British Government will return some six million pounds sterling to their homeland. Skilled in all manner of useful occupations, decently dressed, with strong bodies and broadened minds, and with money in pocket, the returned coolies are a tremendous source of possible good for this country. Their resources of skill, strength and wealth might build a railway, an all-Chinese harbor, or any one of a dozen other productive and much needed facilities. One thing is certain, they will not return to their old lives of poverty, ignorance and moral and physical uncleanliness, wilfully, after their experiences abroad. Only a small amount of encouragement will be needed to keep them in the direction of Western progress. If they are scattered over the width and breadth of Shantung, each will rapidly again be absorbed by the older civilization with its prior claim upon the individual and weight of numbers. Against the ideal of holding this mass of men in touch with one another are many obstacles, but it could be done by any method which would work for their welfare and the welfare of their country. The hundred thousand are a precious heritage for China—it remains to be seen whether anything will come of it. If the Central Government is wise: if Shantung provincial gentry are wiser, these men will be secured immediately they arrive and be employed on public works in their own provinces. There are roads to build, and there are railways, one from Chefoo to Weihsien to begin with, and there are numerous other projects that require inauguration. It will be crass folly on the part of the authorities to allow men trained for such work to drift aimlessly about the country.

## Why Not an Aeroplane Post in China?

If the carriage of the mail by aeroplane has been found convenient in the United States, with its highly developed railway transportation, then the aeroplane post would serve a greater purpose in China with its great distances, its slow and limited railways. For example, the aeroplane post between Chicago and New York has cut the pre-war schedule of 18 hours and present schedule of 20 hours, by railway, to something like 10 hours, yet this saving of time has been of sufficient importance to meet with the heartiest approval, in spite of the fact that there is a heavy premium above the ordinary postage rate for transmission by aeroplane. The distance between Chicago and New York is some 100 miles greater than the distance between Shanghai and Peking, and this latter range would be about the maximum radius in which an aeroplane post would be called upon to operate in China for the present. A 10-hour postal service in China over a distance of 600 or 700 miles, between points where at present letters are delivered the third day after posting by taking advantage of the fastest trains, and telegrams hardly reach their destination in less than 10 hours, would undoubtedly receive more patronage than a service in America that can do little more than cut in half the time of the railway schedule.

While a Peking-Shanghai airship service would be popular and profitable, for carrying official dispatches, there are a dozen commercial centres which keep in constant touch with Shanghai and between which the telegraph is now largely used to save the three to seven days required for transmission of mails by coast and river steamers. Perhaps the larger use of the aeroplane post in China would be between such markets.

It seems fairly certain that the era of the aeroplane post is nearly upon us, and it also appears that territory with undeveloped communications is a more promising field for air service than the Western countries with quick railway mail service and cheap and instantaneous telegraphs. To hope that China will have such a service is not looking far forward to a coming requirement, but to the immediate gratification of a pressing need for better communications. At the present moment we are enjoying a daily news service by wireless direct from Lyons, that we hardly dared to dream about a year ago, and in the way of which apparently insurmountable difficulties have appeared. Very likely we shall see the wireless put to commercial uses, and the aeroplane post an established fact, before a score of months have passed.

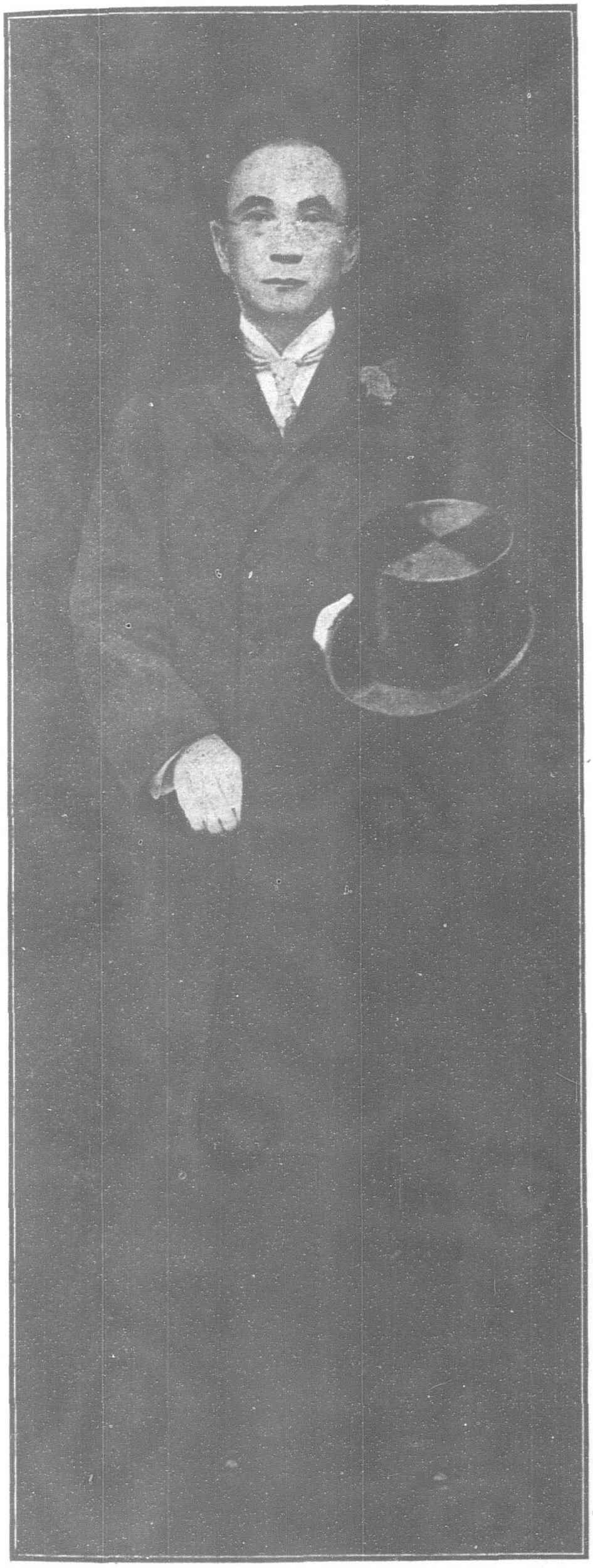
Just as we are going to press we learn that the Peking Syndicate, Ltd., which is the China agent for the Handley-Page Company—the makers of the machine which recently flew from England to India—has signed a contract with the newly created Aviation Department of the Chinese Government for the delivery of a number of large, fast passenger and merchandise carrying machines. General Ting Shih-yuan, Managing-Director of the Peking-Suiyuan Railway, is Director of the new service, and is noted for his progressiveness. Under his direction the Aviation service should quickly develop, and if machines can be delivered early there is no reason why China should not be among the first countries to instal regular postal and passenger air services. General Ting has been trying to conquer the so-called Gobi Desert between Kalgan and Urga with motor-cars. He may soon have a superior machine to work with.

# China's Peace Conference Launched at Last

The most important event to take place in connexion with Chinese internal politics for many months was the opening of the Peace Conference at Shanghai on February 20. Delegates representing the North and the South, under the leadership of Mr. Chu Chi-chien and Mr. Tang Shao-yi respectively, assembled at the ex-German Club preliminary to opening negotiations. The inauguration of the Conference was a simple ceremony graced by speeches by the Chief Delegates expressing views which, if carried into effect, will have far-reaching results. China has waited long for this gathering. The country has endured the greatest hardships and certain districts have suffered the cruellest treatment from undisciplined soldiery; trade and commerce have been dislocated; transportation of produce has been obstructed; industrial development has been retarded; national revenues have been diverted and dissipated; administration has been allowed to drift; the country has become possessed of two Governments, but deprived of law and order, brigands have run rough-shod over provinces, and two Parliaments and over a million armed men have been unable to suppress them or bring peace and quiet to the State. The termination of the European war alone impressed the militarists responsible for this deplorable state of affairs with the necessity of establishing peace of some sort, or of making a pretence to that end, and after much discussion of details the opposing sides have agreed to allow peace to be talked if not enacted.

MR. CHU CHI-CHEN, CHIEF OF THE NORTHERN PEACE DELEGATION

The chief delegates can be relied upon to do their utmost to put a period to the deplorable conditions which have combined to drag the name of China in the international mud. Mr. Tang Shao-yi has lived long enough in the public life of China to know by now the weak points in past policy, and possesses a wide enough grasp of international politics to realize the change that has been working in the world during the past few years and the significance of the very recent developments in Europe. Mr. Chu Chi-chien, while not having the advantage of foreign learning has a broad outlook and sound knowledge. He is experienced in the affairs of his own country, and is perhaps the best man that could be selected for the task set for him. He has had administrative experience, and is among the most progressive of his time. Like Mr. Tang he also appreciates the great changes that have been wrought in international affairs, and realizes what the reshuffling of national positions signifies. Both know full well that China stands on the threshold of a new time, and while both may be seeing far ahead of their respective parties they are convinced that only courageous and radical action at this moment can save their country from a period of tutelage and are determined to try and translate their thoughts into deeds. They can go only so far as the men with the armies will permit, however, and if they are not strongly supported by the anti-militaristic among the Powers their efforts may go for naught. Resolutions may follow resolutions of good intent from the building on the Shanghai bund, but Shanghai is a long way from the inner court yard of the headquarters of the military coterie at Peking, or the yamens of the recalcitrant Tuchuns in the several provinces. But the main blow for permanent peace must be struck, and struck courageously, straight-forwardly and honestly at the militarists. In this regard both the President and the Premier at Peking are with the peace-lovers. So are the masses of down-trodden, browbeaten people. So are the better placed commercial elements and the thinking literati, the progressive among the officials and the ever-growing ranks of the educated young men. So are the Occidental strangers within the land, the diplomatists and the teachers, the commercial men and the dilettante. So are the great Powers who are watching with curious interest the portentous unfolding of events in this distraught country—and soon it will be known whether the peace delegates are armed merely with the feeble mangonels of speech or with the heavy ordnance of executive power.



MR. TANG SHAO-YI, CHIEF OF THE SOUTHERN PEACE DELEGATION

In their opening speeches the chief delegates were in hearty accord. Both deplored the misfortunes of the people, both condemned militaristic disregard of law and order, both applauded the demand for constitutional rule, upheld the necessity for a strong stable government, and acknowledged the importance of national unity to sustain the prestige of the country and promote its progress. Mr. Tang rightly condemned the loose use of the expression "North versus South" to describe the conflict of the past, emphasizing that the delegates represent not sections but the whole country. And he emphasized that the continued turmoil among brothers could not have been sustained without outside influence. "The military clique could never have sufficient money to purchase arms and finance their expeditions without foreign assistance," he said, and he blamed "outsiders" for prolonging the struggle "for motives of their own." He made a plea for open dealing and candid diplomacy in accordance with the movement of the times, "to carry out our open door policy, to avail ourselves of the financial assistance of friendly nations in order to develop our national resources, and to supply our neighbors with our own products." Mr. Chu Chi-chien endorsed these sentiments by not contesting them, but with regard to the effort that was forecasted to "crush military ascendency," as Mr. Tang put it, Mr. Chu councelled caution. "While we should follow the tendencies of the world, the expectations of the people and the financial conditions of the country. . . . . we should bear in mind the fact that in trying to remove the military danger we should not cause further troubles to the people whose sufferings are still existing." In conclusion Mr. Tang hoped that "this will prove to be the last conference of this nature and that the people will be able to live in peace," while Mr. Chu terminated his remarks urging that "as we all have the welfare of the country at heart let us do our best to solve the difficulties." So with the leaders of the conference in complete agreement upon essentials why should the conference not succeed, especially as the President and Premier at Peking are at one with the delegates in their desire to see China take her proper place in the comity of nations, and since both delegates and President and Premier will undoubtedly be backed by foreign sentiment and sympathy?

The names of the Northern delegates are Messrs. Chu Chi-chien, Wu Ting-chang, Wang Ko-ming, Sze Yu, Fang Chu, Wang Yu-lin, Lin Eng-ko, Li Kuo-chen, Kiang Shao-chieh and Hsu Fo-su. The Southern delegates are Messrs. Tang Shao-yi, Chang Chi-chao, Hu Han-min, Miao Chia-shou, Tseng Yen, Kuo Tsung-sung, Liu Kwang-lieh, Wang Po-chun, Peng Yun-yi, Yao Ming-luan and Li Shih-yin.

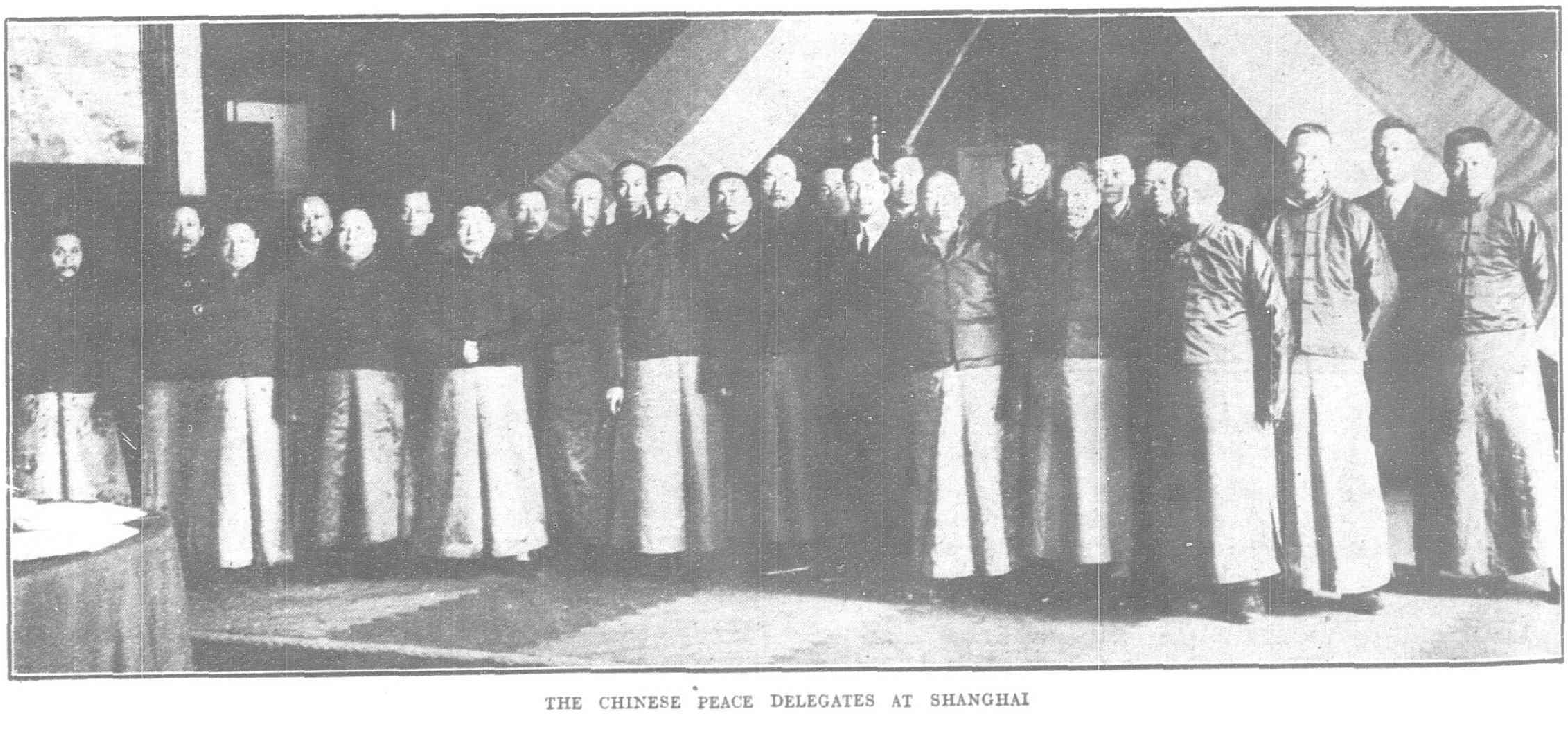
Up to February 26, the fifth meeting, matters went along smoothly, though the Southern Chief Delegate was compelled frequently to ask for some explanation of the situation in Shensi Province, where Northern troops were active despite the fact that an armistice was supposed to be in operation. No satisfaction coming from Peking, through Mr. Chu Chi-chien, who did his best to impress upon the authorities there the necessity of complying with the Southern demands for cessation of fighting, Mr. Tang Shao-yi was left no other alternative than to announce, on the 26th, his intention not to discuss any further business until the Shensi question was settled. In the meantime the Canton government, representing the South-western provinces, were indignantly demanding cessation of negotiations. Mr. Tang's action was taken on a letter from the commander of the Southern forces, dated the 17th, which announced that the Northern forces had compelled his troops to evacuate the city of Chowtse on the 16th, and that fighting was proceeding.

The second session of the Conference on the 27th was the first business one, when Mr. Tang voiced the demand of the Southwest generally and Shensi province in particular that the Tuchun of Shensi be removed from office forthwith, not only for his open violation of the armistice but because of his injustice to the Shensi people.

At the third session on February 22, Mr. Chu Chi-chien reported that a special delegate was being despatched to Shensi to endeavor to adjust matters, Mr. Tang Shao-yi then opened what will prove the most important subject to be dealt with by the Conference—the military question in general—and as a first step it was decided that the chief delegates should wire Peking urging the disclosure of the Sino-Japanese Military Pact. At the

THE CHINESE PEACE CONFERENCE IN SESSION AT SHANGHAI

fourth session, on February 24, Mr. Tang again demanded action with regard to Shensi and Mr. Chu promised to wire to Peking immediately for the issuance of peremptory orders to the northern forces to suspend fighting. Mr. Chu reported that he had been advised that the military agreements would be placed before the conference. A protest was lodged by Mr. Tang against further payments to Peking in connexion with the War Participation Bureau loan of Yen 20,000,000, of which Yen 3,000,000 had already been advanced. At an informal meeting on the 25th, the Shensi trouble absorbed attention and more wires to Peking were decided upon. The subject of the reported favorable change in Japan's policy was referred to, the delegates expressing the opinion that if true it would greatly facilitate the conference. The report was that Japan had declined to allow any further arms to be exported to the North, and had advised the Peking Government not to draw upon the Yen 17,000,000 lying in the Bank of Chosen at Peking for the use of the Government at stated intervals. The fifth session on the 26th, as mentioned above, was notable for the decisive stand taken by Mr. Tang, who demanded the dismissal of the Shensi Tuchun before he would discuss any further questions. This constituted a virtual ultimatum to Peking. An informal session on February 27 further discussed the Shensi matter, another letter from the Southern General there being produced to show that the Northern forces had pushed him still further back and had occupied the city of Meihsien. On the 28th, the Northern delegates resigned as a protest against delay.



THE CHINESE PEACE DELEGATES AT SHANGHAI

# The Chinese as Travellers

## An Analysis of the Movement of Passenger Traffic in China

By F. E. WEISS

Despite the fact that the introduction of steam motive power to facilitate transportation in China was comparatively late in coming, it is of considerable interest to the student concerned in traffic matters to know of the vast development of the passenger business now handled by steamships and railway trains, and to have something upon which to base speculations as to the future when the complete opening of China to trade and commerce takes place.

To make a close comparative statistical study of this traffic is impossible as past records have not been made in all instances, but generally speaking there has been a large and gradual increase. That the average Chinese individual has never travelled extensively in the past is obvious if one surveys this vast country and takes cognizance of the many different dialects spoken within its boundaries. The slow motion that has hitherto satisfied the Chinese in the matter of transportation, such as that attached to the wheelbarrow, jinricksha, donkey, camel-train, and junk, is now giving way to the steamship and train. That China is now being modernized in this respect no one can doubt.

But all in all, the transportation facilities offered by the local steamships and railroads are not of the same standard as one finds in America, owing to the fact that the majority of the traffic is what might be considered as third class. It moves at very cheap rates and consequently the space alloted each passenger is very limited.

In giving a general idea of present conditions we will first deal with the Chinese traffic that moves in and out of the Treaty ports and which, with the exceptions as noted, is wholly within the boundaries of China. These figures are compiled from the reports made by the Chinese Maritime Customs, but owing to the farming out of the concession of collecting fares to compradores, the figures cannot be regarded as strictly accurate, and further they only apply to traffic handled by steamships entering and clearing through the Maritime Customs. Passengers carried by junks are not included. Nevertheless the statistics give an index to the density of traffic, and, compared with the populations shown, an idea can be formed of the immense passenger traffic which China's waterways handle:

NORTHERN PORTS

1917

| | *To* | *From* | *Estimated Population* |
|---|---|---|---|
| Aigun ... ... ... ... ... | 21,438 | 21,874 | 23,400 |
| Sansing ... ... ... ... ... | 3,209 | 9,805 | 35,740 |
| Harbin ... ... ... ... ... | 93,451 | 97,203 | 28,600 |
| | 118,098 | 128,882 | 87,740 |

The above traffic is distinctly riverine and shows a decrease of 20 per cent. over 1916, chiefly owing to low-water. The volume of this traffic, which is composed largely of coolies who seek labor in the Manchurian and Siberian fields, is restricted by the freezing over of the Amur and Sungari Rivers for five to six months.

| | *To* | *From* | *Estimated Population* |
|---|---|---|---|
| Antung ... ... ... ... .. | 21,795 | 56,116 | 32,790 |
| Tatungkow ... ... ... | 1,319 | 1,087 | 4,250 |
| Dairen ... ... ... ... ... | 91,520 | 193,769 | 46,570 |
| Newchwang ... ... .. | 53,322 | 85,863 | 114,860 |
| Chinwangtao ... ... ... | 196 | 1,141 | 5,000 |
| Tientsin ... ... ... ... | 56,774 | 58,626 | 800,000 |
| Lungkow ... ... ... ... | 49,958 | 47,236 | 3,860 |
| Chefoo ... ... ... ... | 155,211 | 147,613 | 54,450 |
| Kiaochow ... ... ... | 143,553 | 54,240 | 22,530 |
| | 573,648 | 645,691 | 1,084,310 |

The foregoing shows a total movement of about a million and a quarter passengers in and out of the ports on the Gulf of Chihli, and it might be estimated that a million of these are destined to and from these ports. This means that a half-million reported Chinese passengers travel on this body of water annually. Over 150,000 of the total movement is to and from inland river points.

Some of this traffic is slightly abnormal, such as to Dairen on account of an exodus of coolies from the famine-stricken districts in Shantung province. There is, however, a normal annual movement of about 150,000 coolies from Chefoo, Lungkow, and Tsingtao to Manchuria who seek labor in the kaoliang fields. Also the railroad has reduced the number of water-borne passengers from Tientsin, owing to increased railway facilities and cheap rates. It must also be noticed that there are over 40,000 coolies included in these figures who were transported from Tsingtao to the war-zone.

CENTRAL PORTS.

1917

| | *To* | *From* | *Estimated Population* |
|---|---|---|---|
| Shanghai<br>to | | | |
| Soochow ... ... ... ... | 48,275 | 56,702 | 1,000,000 |
| Hangchow ... ... ... | 34,964 | 30,738 | |
| Inland places ... ... ... | 83,376 | 75,823 | |
| *Northern Coast ports ... ... | 25,000 | 25,000 | |
| *Yangtze ports ... ... ... | 500,000 | 500,000 | |
| *Southern Coast ports ... ... | 30,000 | 30,000 | |
| Soochow ... ... ... ... | 166,615 | 163,263 | 500,000 |
| Hangchow ... ... ... | 191,291 | 208,764 | 594,230 |
| Ningpo ... ... ... ... | 936,081 | 958,282 | 470,000 |
| Wenchow ... ... ... | 64,763 | 64,438 | 203,440 |
| | 2,080,365 | 2,113,010 | 1,767,670 |

*Estimated

With the exception of Shanghai as mentioned, the great majority of this traffic is riverine.

Not including the passengers travelling by steamer on the Yangtze it is very safe to say that there are about four million in and out of the Treaty Ports in the Yangtze delta, which means that within a radius of about 80 miles to the south and west of Shanghai there are two million passengers known to be travelling on small launches and boat-trains despite the strong competition of the railways.

The Yangtze traffic from Shanghai must be estimated owing to the Maritime Customs gathering no figures and also the "compradore system." The bulk of this traffic is handled on steamers of about 2,500 tons capacity which journey between Shanghai and Hankow, making the trip in about three and a half days. There are close to 90 sailings each way per month and each steamer carries from three to five hundred third class passengers.

YANGTZE PORTS.
1917

| | *To* | *From* | *Estimated Population* |
|---|---|---|---|
| Chungking | 5,867 | 7,017 | 702,300 |
| Wanhsien | 2,610 | 2,925 | 70,000 |
| Upper Yangtze | 8,477 | 9,942 | 772,300 |
| Ichang | 30,733 | 41,669 | 55,000 |
| Shasi | 57,911 | 57,429 | 105,000 |
| Middle Yangtze | 88,644 | 99,098 | 160,000 |
| Changsha | 556,705 | 488,677 | 535,800 |
| Yochow | 6,015 | 5,225 | 4,500 |
| Inland Lake ports | 562,720 | 493,902 | 540,300 |
| Hankow | 162,732 | 180,357 | 800,000 |
| Kiukiang | 92,638 | 96,472 | 36,000 |
| Wuhu | 325,803 | 296,782 | 102,130 |
| Nanking | 192,738 | 209,712 | 378,200 |
| Chinkiang | 335,891 | 321,607 | 157,090 |
| Lower Yangtze | 1,110,802 | 1,104,930 | 1,473,420 |
| Grand Total | 1,781,643 | 1,707,872 | 2,876,020 |

This distinctly shows that the lower Yangtze River valley is the scene of greater activity than the middle or upper sections, but the wealth of the latter will no doubt attract capital, and when the steamship companies lower their fares one will witness a greater traffic than is shown in these figures.

Of this traffic on the Yangtze, 1,149,306 were destined to, and 1,066,120 were from inland water places. This means that 632,332 passengers travelled from and 641,752 to the Treaty ports on the river in vessels plying their course wholly on the Yangtze. To this must be added another 500,000 each way as Shanghai's quota, which, therefore, suggests that no less than one million Chinese passengers travel in steamships on the main waters of this great river annually. These figures it must be remembered are only those of the treaty ports, and perhaps they only represent one-half of the total actually travelling to all ports.

SOUTHERN PORTS.
1917

| | *To* | *From* | *Estimated Population* |
|---|---|---|---|
| Santuao | 8,065 | 13,529 | 8,000 |
| Foochow | 42,403 | 43,359 | 624,000 |
| Amoy | 351,510 | 345,507 | 114,000 |
| Swatow | 770,439 | 697,262 | 80,000 |
| Hongkong | 96,298 | 98,232 | 515,000 |
| Kowloon | 100,484 | 94,991 | — |
| Lappa | 741,474 | 742,807 | — |
| Canton | 605,942 | 602,735 | 900,000 |
| Kongmoon | 198,847 | 184,152 | 70,000 |
| Samshui | 191,050 | 214,582 | 6,000 |
| Wuchow | 140,768 | 148,125 | 40,000 |
| Nanning | 33,560 | 34,032 | 50,000 |
| Kiungchow | 13,695 | 13,814 | 51,490 |
| Pakhoi | 1,321 | 1,464 | 20,000 |
| | 3,295,856 | 3,234,591 | 2,478,490 |

The above figures for Hongkong are those taken from the Harbor Master's report, and only refer to crews carried on vessels entering the port. Taking the arrivals and departures of Hongkong passengers from the Treaty Ports, Foochow to Pakhoi, the figures give an additional 726,346 to, and 746,356 from. This brings the total of passengers carried, either to or from the fourteen above ports, to well over 4 million. As the Chinese Maritime Customs do not function at Hongkong, no statistics are gathered, but taking into consideration the nearby stations of Lappa and Kowloon, together with the estimates of the Hongkong traffic, it can be said that over one million and a half passengers journey through these stations annually. This does not take into consideration the traffic to foreign countries. The large ocean liners plying across the Pacific transport from two hundred to six hundred Chinese steerage passengers per voyage from Hongkong. During 1917 there were 198 vessels clearing for Canadian and United States ports. The Cantonese especially are great travellers and it is these people who have emigrated to Canada, United States, West Indies, East Indies, Federated Malay States and Siam, and between these countries and Hongkong there is a continual traffic back and forth.

Therefore the known Chinese passenger traffic can be summarized as follows:—

| | *To* | *From* | *Estimated Population* |
|---|---|---|---|
| Northern Ports | 691,746 | 774,573 | 1,172,050 |
| Central Ports | 2,080,365 | 2,113,010 | 1,767,670 |
| Yangtze Ports | 1,781,643 | 1,707,872 | 2,876,020 |
| Southern Ports | 3,295,856 | 3,234,591 | 2,478,490 |
| | 7,849,610 | 7,830,046 | 8,294,230 |

The majority of this traffic is distinctly riverine. That is to say that over five and a half millions are carried from, and the same number to, the mentioned ports in small vessels plying on inland waters. This, however, does not include the traffic on the Yangtze. There are over one million passengers handled in vessels plying in the coastal trade between the Treaty Ports.

The rates of fare at which this business is handled average:

| | | |
|---|---|---|
| Shanghai to Hongkong | Mex. $4.00 | 820 miles |
| Shanghai to Tientsin | 6.00 | 776 ,, |
| Shanghai to Hankow | 5.00 | 595 ,, |
| Hongkong to Swatow | 2.00 | 176 ,, |
| Hongkong to Tientsin | 12.00 | 1,460 ,, |

Considering the foreign population resident in China, about 80,000 whites and 104,000 Japanese, there is a fair movement of first class business. In 1917 there were over 48,000 to and 79,000 from the Northern Ports. This is largely made up of Japanese travelling to Dairen and Tsingtao (Kiachow). The traffic in and out of the Central Ports may be estimated at about 17,000 in each direction, with Shanghai originating at least 15,000, divided 8,000 to Yangtze ports, 3,000 to Northern ports, 3,000 to Southern ports, and 1,000 to inland places. Of the first class business handled between the Treaty ports on the Yangtze it will range between twelve and fifteen thousand passengers each way. Shanghai, of course, originating the largest volume, as stated, and Hankow about three thousand. From the Southern Ports, not including Hongkong, about seven thousand foreign passengers travel in and about the same number out. This refers, of course, to passengers travelling to destinations in China. Of the traffic to foreign countries no record is available. Some estimate the traffic from Shanghai to Japan at about 2,000 per year. Of the traffic across the Pacific from the Orient to American ports it can be estimated to total between ten and twelve thousand. The European services from China have been so disturbed by government requisitions that it is difficult to give any idea of the traffic handled annually and any attempt would give no index of what may be regarded as a normal movement.

The rates of fare at which this first class business moves averages as follows:—

| | per mile |
|---|---|
| Shanghai to Hongkong | Mex. $.073 |
| ,, ,, Tientsin | .096 |
| ,, ,, Hankow | .084 |
| Hongkong ,, Tientsin | .075 |
| ,, ,, Singapore | .069 |
| ,, ,, Manila | .071 |

It will be seen that the average rate per mile is about eight Mexican cents.

There are approximately one hundred and seventy-five steamers operating in the China coast and river trade. The average age is about fifteen to eighteen years, consequently the space allotted the third class business is not always modern in its equipment. Necessarily all collections of fares must be made aboard and owing to the crowded condition of the third class accommodation no foreigners can be secured who are willing to undertake this work. This is partly responsible for the "compradore system." The Chinese compradore guarantees the steamship company a certain sum per round trip, for instance:

| | |
|---|---|
| Shanghai to Hankow: 10-day round trip... ... ... | Mex. $2,000 |
| Salaries and expenses ... .. .. ... ... ... | 800 |
| | $1,200 |
| 10 per cent. for passengers rice allowance ... ... | 120 |
| Net to steamship company ... ... ... ... | $1,080 |

This applies to the largest of river steamers with a third class capacity of five to six hundred. All fare collections above the contract guarantee go to the compradore as his profit.

The rates at which this business is handled are not stable. The compradore virtually makes his own rate, influenced, of course, by the rates being quoted by other compradores of steamers sailing about the same time. Also this business is solicited and controlled through brokers and hotel runners who are paid a commission.

On the inland lakes and canals the immense traffic is handled in small launches or boat-trains. These boat-trains are extensively used on the small rivers and creeks in the Yangtze delta. A steam-launch is employed to tow, perhaps, five or six shallow-draft boats, each of which is equipped with one long cabin in which are placed seats running crosswise with a centre aisle, much after the fashion of a railway coach. Each boat in the train has a capacity of about fifty or sixty passengers.

While the foregoing statistics are those applying only to passengers handled on steamers, it might not be amiss to mention that there is an immense traffic handled by junks, sampans and lorchas. These native craft are of curious design oftimes, such as those with the "twisting stern", on the Upper Yangtze, which enables them, according to the natives, to navigate the sharp turns in the Kungtan River. On the lower Yangtze the junk traffic is quite voluminous, as well as on the West River. Some foreigners travel by junk when steamer facilities are lacking, such as on the upper reaches of the Yangtze—the charge being, for instance: Chungking to Ichang, sixty Mexican dollars, for a boat accommodating three or four comfortably—or on various canals.

The local steamer lines in the coastal and river trade could probably stimulate first class travel by offering excursion rates or by an active advertising campaign. On coasting vessels one can be made fairly comfortable, though steamers are small. Because of the limitations in size and capacity of these coast boats, most of the traffic between Shanghai and Hongkong is carried by the ocean liners of the European and American services. The rates charged by the vessels on the run are at present slightly less than those of the local lines.

Passenger traffic on the Chinese railways is of immense proportions and to one unacquainted with China the figures are startling. An analysis of the business handled in 1916 is appended and the 1917 figures are reported to be much the same.

The FAR EASTERN REVIEW, "Ports of the Orient" number (February 1919) gives an idea of the facilities granted these passengers as well as other statistics pertinent to this traffic.

It will be noticed that the greatest density of traffic is in the vicinity of the Yangtze delta, with approximately five million known passengers travelling by boat, and over eight million travelling by trains on the Shanghai-Nanking, and the Shanghai-Hangchow-Ningpo Railways. It is estimated that the population of this region is about 448 to the square mile. The estimated population of Kiangsu province, wherein this traffic mostly originates, is 24,000,000. The region tapped by the railways and water-routes to which these figures allude, probably contains 12,000,000 souls. The West River, Canton and Hongkong and vicinity, is a close rival with about three and a half million travelling by boat, and eight million by trains on the Canton-Kowloon and Canton-Samshui Railways.

Taking the rough estimate of the traffic in the vicinity of the Yangtze delta, as compared with the population, it shows the average number of trips per inhabitant as about one per year. On the railways in the United States the average is about ten per year; the United Kingdom twenty-seven; France ten; and India 0.5. It is, therefore, obvious that when China's resources are fully and intelligently developed, and the vast hordes of labor are thereby permitted to raise their standard of living, passenger traffic will increase tremendously, as there is certainly room enough for its growth.

# Peking-Suiyuan Railway Loan

A loan of Yen 3,000,000 has been secured from Japanese financiers for work on the Peking-Suiyuan Railway, bonds being pledged as security. This is the first time that the railway has been connected with a foreign loan, the Chinese always jealously guarding it as an untrammelled Chinese line. In addition, of course, an agreement with Russia bound the authorities of China not to pledge the line without giving their financiers the first option. Conditions to-day are such that Russia's government is virtually *non est*, and money cannot be secured from anyone else than Japanese financiers. The Oriental Development Company, a Japanese corporation, entered into an agreement on December 7, 1918 to supply Yen 3,000,000 exclusively for use in undertakings of construction and repair. The whole of this sum was deposited in a Japanese bank, and no portion is withdrawable without the authorization of the Japanese Legation. The following provisions were made for the allotment of the proceeds:—(*a*) Yen 1,259,000 was provided for the liquidation of an outstanding debt to a New York firm for 6,000 odd tons of railway material supplied; this sum has already been paid out from the Japanese bank to the creditor, in the manner prescribed, that is to say, from the bank direct to the creditor under authorization of the Japanese Legation, and has not passed through the hands of the railway authorities. (*b*) Yen 700,000 for outstanding transportation expenses of the foregoing material, paid out in the same manner as the foregoing. (*c*) Of the balance of Yen 1,000,000 a sum of Yen 100,000 has already been paid in Tokyo from the Japanese bank to a Japanese firm in settlement of an outstanding account for sleepers, previously sold to the railway. (*d*) The now remaining balance is reserved for similar payments when required in future, all disbursements being subject to the foregoing procedure and only possible on the full authorization of the Japanese Legation. It is stipulated that the administration shall, whenever it is necessary to obtain funds from abroad, first consult with the Oriental Development Company.

| | 1st | 2nd | 3rd | Coolie | Total | Revenue |
|---|---|---|---|---|---|---|
| Peking-Hankow ... ... ... | 11,621 | 34,104 | 3,031,211 | — | 3,076,936 | M.$ 4,377,404.34 |
| Peking-Moukden ... ... .. | 63,030 | 79,257 | 3,215,654 | — | 3,357,941 | 5,914,235.67 |
| Tientsin-Pukow .. ... ... | 8,571 | 15,956 | 1,738,317 | 900,350 | 2,663,194 | 3,860,739.05 |
| Shanghai-Nanking .. ... ... | 38,343 | 171,175 | 4,497,373 | 906,869 | 5,613,760 | 2,534,056.85 |
| Shanghai-Hangchow-Ningpo ... | 9,778 | 209,226 | 2,425,853 | 447,526 | 3,092,383 | 1,255,955.65 |
| Peking-Suiyuan ... ... ... | 6,525 | 13,567 | 787,514 | — | 807,605 | 841,419.91 |
| Cheng-Tai ... ... ... ... | 365 | 4,685 | 232,274 | — | 237,324 | 444,956.40 |
| Taokow-Chinghua .. .. ... | 1,411 | 1,427 | 113,870 | — | 116,708 | 123,295.11 |
| Kaifeng-Honan ... . .. | 1,072 | 8,831 | 547,313 | — | 557,216 | 568,691.80 |
| Kirin-Changchun ... ... ... | 2,322 | 8,685 | 258,082 | — | 269,089 | 342,660.83 |
| Chuchow-Pinghsiang ... ... | 230 | 1,643 | 335,527 | — | 337,400 | 114,645.70 |
| Canton-Kowloon ... ... ... | 4,971 | 29,381 | 1,772,807 | — | 1,807,159 | 650,806.26 |
| Canton-Samshui ... ... ... | 45,912 | 519,433 | 5,949,265 | — | 6,514,610 | 889,651.98 |
| Changchow-Amoy ... .. ... | 279 | 1,129 | 205,300 | — | 206,707 | 41,520.74 |
| Total .. ... . ... | 194,429 | 1,098,498 | 25,110,360 | 2,254,745 | 28,658,031 | M. $21,960,040.29 |

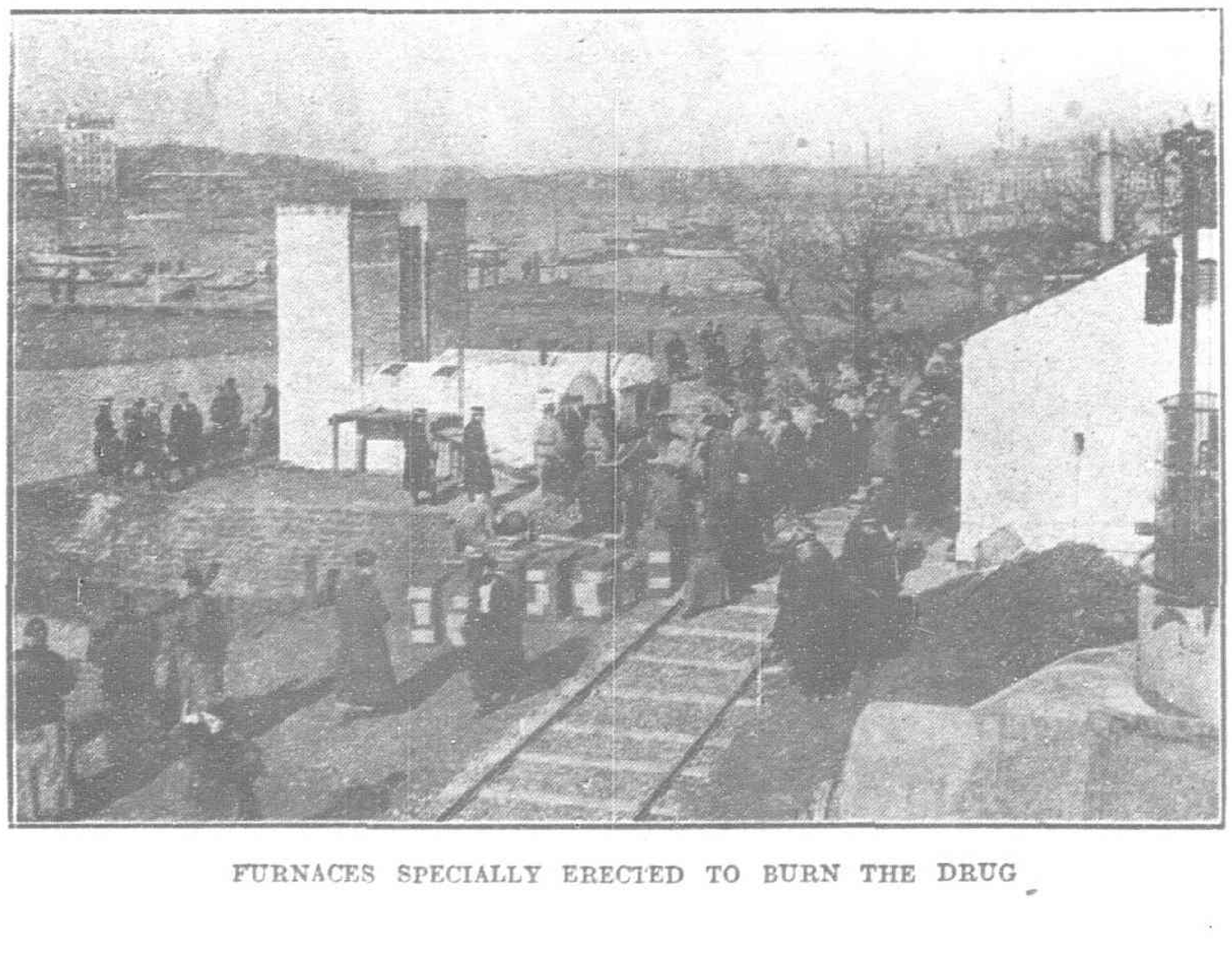
This revenue represents 37% of the total from all sources. The average number of passengers handled per train is 201.

# $25,000,000 Worth of Opium Goes up in Smoke

U.S. CONSUL-GENERAL SAMMONS TOSSES A BALL

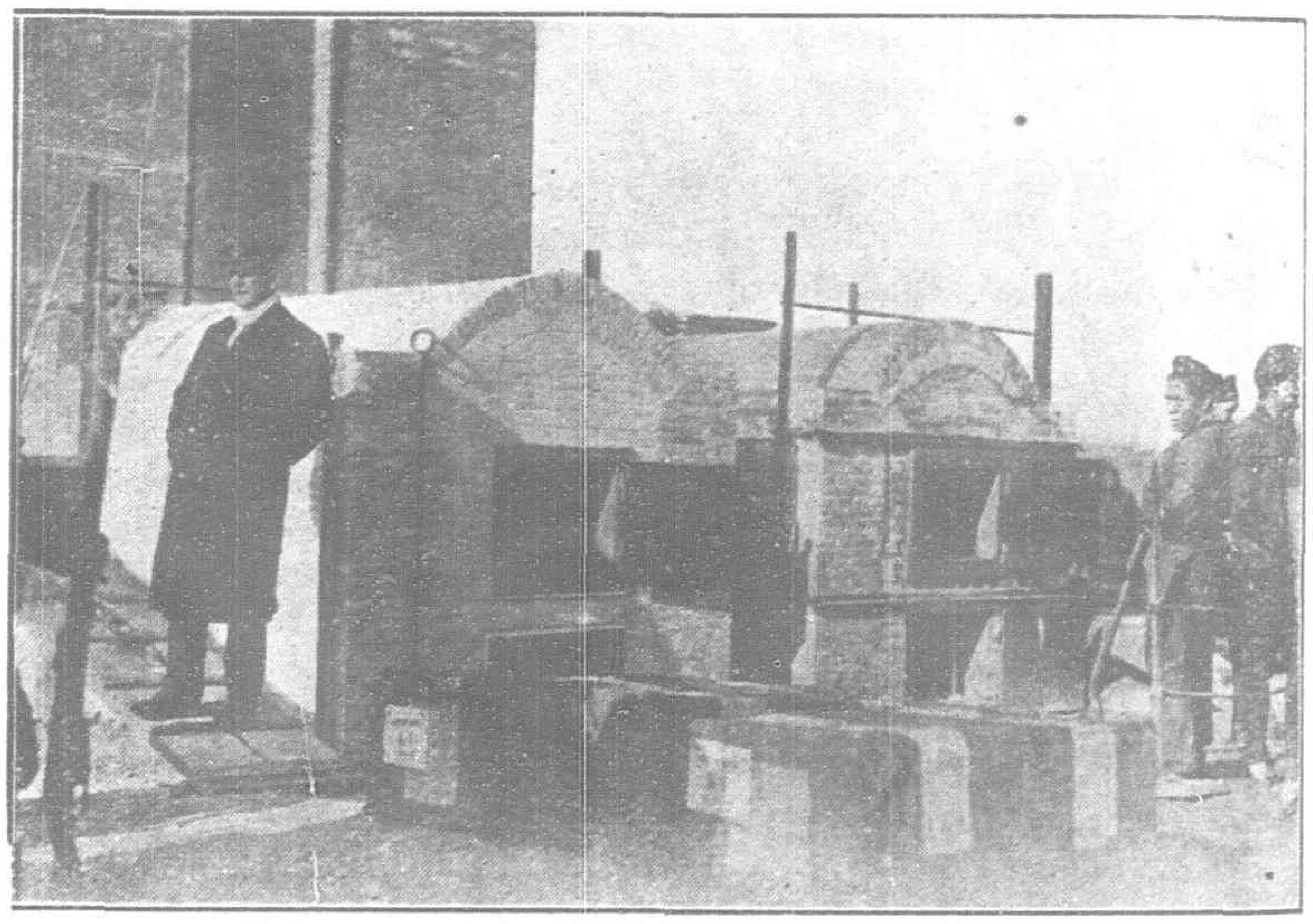
TWENTY-FIVE million dollars' worth of opium went up in smoke at Shanghai during the month of January, that sum representing the value of the 1,205 chests of the drug which the Chinese Government took over from the Opium Combine and destroyed by fire. The opium was the bulk of the stock that remained in the hands of the Combine, under bond to the Chinese Maritime Customs, when the legitimate foreign opium trade and the legitimate Chinese cultivation of the poppy came to an end on March 31, 1917. Shortly after that date the Chinese Government proposed to indemnify the Combine for its loss by taking over the remaining stock, which the Government proposed to sell to a syndicate formed ostensibly for the purpose of manufacturing and selling "anti-opium" pills. This proposal was held in so much ridicule by the press that nothing came of it; all the documents were pigeon-holed, and the matter rested until the next move in June, 1918. On June 11 it was announced that the Government had pledged itself to relieve the Combine of the 1,576 chests of opium then in stock, at Tls. 6,200 per chest, the debt to be discharged by an issue of bonds redeemable in 10 years and bearing interest at 6 per cent. Three days later, on June 14, it was reported that a new syndicate, formed of Peking officials and their friends, had purchased the opium at Tls. 8,000 per chest, together with a license to dispose of it in the two provinces of Kiangsu and Kiangsi. Immediately a storm of protest was raised in China and all over the world. On September 20 the newly elected Chinese Senate lodged a strong protest against the proposed sale of the drug to the new syndicate, and notes of protest both from the United States and Great Britain followed on September 25. In response to the pressure of public opinion, President Hsu Shih-chang denounced the proposal on November 4 and on November 22 a Presidential mandate proclaimed that the stocks, due to the fact that deliveries had been made to the new syndicate then consisting of but 1,207 chests, would be publicly burned.

On January 8, 1919, a special commissioner from the Peking Government met Customs and other officials in Shanghai, and the inspection of the opium was begun. Under the direction of Chinese and foreign officers of the Maritime Customs, the special commissioner, and a number of other officials, the cases were broken open, and balls which bore a suspicious appearance were split open and examined by experts, chemical analysis being used in some instances. Altogether 194 chests of Malwa and 448 chests of Patna in one godown and 556 chests in another godown were gone over. The object of the examination was to determine that the chests contained only genuine opium, and as this fact was determined the opium was returned to the chest, which was then well sealed.



FURNACES SPECIALLY ERECTED TO BURN THE DRUG

When the opium was ready for burning it was conveyed to Pootung, the suburb on the river bank opposite Shanghai, where furnaces had been erected in the middle of an open space in plain sight of the Shanghai Bund. Large coal fires had been started in the furnaces, and into these the opium was tossed and worked about until it was consumed, the work being started by Mr. Chang Yi-pang, the special commissioner, Mr. R. H. R. Wade, Commissioner of Customs, and Mr. Thomas Sammons, the United States Consul-General, who tossed in the first balls. After that the work was undertaken in earnest. As the cases were lugged to the furnaces by the coolies an opportunity was given for those interested to examine the seals, when the cases were broken open and the contents were thrown to the flames, to be followed by the wooden cases and wrapping material. Frequent launch service to the Shanghai Bund afforded an excellent opportunity for interested persons to witness the burning, and by availing themselves of the launch service and the excellent facilities for inspection at the burning ground a good many foreigners and Chinese witnessed the process.



ANOTHER VIEW OF THE FURNACES

About ten days of steady work was required to dispose of the entire lot, and the completion of the task marked the finish of one of the most important steps in modern reformation in China, for it stamped out the last trace of the legitimate opium traffic. While the move may properly be called reform, it is as true that it was forced by enlightened Chinese and foreign public opinion and by outside pressure.

The extensive cultivation of poppy in various parts of the country has been forced upon the attention of President Hsu Shih-chang of Peking and on February 18 he issued a Mandate ordering the Civil and Military officials to adopt genuine suppressive measures and to act vigorously. In the course of the Mandate the President explains to the people the necessity for co-operation in the suppression of poppy growing and explained that the Government had sacrificed a large amount of money in burning unsold opium. He warns them that severe punishment will be meted out to any offender while the officials will be held responsible for neglect of duty. It has to be remembered that when the anti-opium campaign was carried on some years ago the steps taken to effect exterpidation were very vigorous, farmers guilty being decapitated wholesale.

# The Relation of Forests to Floods

### By D. Y. LIN, M.F.

"Does Forestry control Floods?" was the subject of a short article written by "An Engineering Correspondent" in the January issue of the FAR EASTERN REVIEW in reply to my article on "The Relation of Forests to Floods" which appeared in the December issue. The correspondent cleverly picks out some little sentence from my article of about five thousand words to show how I have exaggerated the case and then tries to tell how the forester's "work is of the highest value in itself apart from the incidental and fractional benefit to rivers and must always be based on considerations, economical and biological, apart from those of river control."

In answer to the correspondent's statement that the capacity of a forest in retaining water is a question which has never been fully discussed, I wish to say at the very outset that the material used in my article was gathered from the best books and reports published on the subject by authorities or men who have devoted much of their time to research and investigation of this kind. We do not want, however, to mention all the books and reports published so far on the subject, for there are too many, but for the benefit of the correspondent, let it be sufficient to mention just the following:—"The Conservation of Natural Resources in the U.S.A." (van Hise), pp. 208-263; Circular 176 (Department of Agriculture U. S. A.); Circular 140 (Department of Agriculture U. S. A.); American Forestry for April 1910, pp. 199-240; Economics of Forestry (Fernow); History of Forestry (Fernow); Schlich Manual of Forestry (Vol. I); Report Fifth National Conservation Congress (U. S. A., 1913); Chinese Forest Trees (Norman Shaw); The Problem of River Conservancy in the Province of Chihli (H. vander Veen, C.E.); Report on the Floods along Peking-Hankow Railway (1917) (H. vander Veen, C.E.); Report National Conservancy Bureau (P. L. Yang, C.E.).

The correspondent in his article compares the forest to a sponge. This is a well-chosen comparison, for the forest together with the soil does act like a sponge in absorbing water. We are glad that he admits this much. In forested regions, the soil is made deeper, and the depth of soil has a great bearing upon the amount of water which it can retain. The way in which the forest is able to increase the depth of soil is by adding leaves and twigs which when decayed become a constituent part of the soil; and by causing the underlying rock to disintegrate—this is on account of the mechanical action of the penetrating roots. When soil increases in depth, it increases also in absorptive capacity, thus creating greater reservoirs for water.

In the sponge explanation of the influence of a forest, our correspondent says: "As soon as the forest is fully charged with water it has little or no effect on the immediate run-off." This is quite true, and the same may be said for reservoirs and other engineering works, but the question arises—when will a forest become fully charged with water? No doubt the time when a forest becomes fully charged with water and has no more effect in reducing surface run-off is when absorption, transpiration and evaporation cannot keep pace with the amount of precipitation that takes place; but such excessive precipitation is exceptional and uncontrollable. As was brought out in my last article, no forests, no reservoirs, no dykes and no engineering works of any kind will ever be able to control floods if these floods are caused by exceptional meteorological conditions chief of which is excessive rainfall.

In the matter of soil in deforested regions, our correspondent tries to show that I am responsible for the general statement that soil brought down is injurious to the fields. He says "it is difficult to conceive how the fields themselves could come into existence without soil so brought down." Right here our correspondent has again cleverly picked out one little sentence to try to show the absurdity of the whole thing. I am sorry to have made such a singular impression on our correspondent, but I would ask that he read over the whole paragraph from which this little sentence was picked out, in order that he may appreciate what I had in mind when I made the point.

"The velocities in mountain streams are not annulled by forests and the mere fact that tree-covered hills do erode shows that the cure is only partial." Here is another statement which is most doubtful. If there is anything at all to such a sweeping statement, then it would be most ridiculous for the French Government to be spending for years millions and millions of dollars to reforest the lands in the Alps, the Cevennes, and the Pyrenees mountains in order to control the torrents that are within her territory (See Fernow's History of Forestry, pp. 229-233). It is said that such planting work for the control of mountain torrents by the French Government has been going on ever since Surell, an engineer, made a special study of the region and emphasized the importance of forestry and the need of tackling the problem at the source. The work is still going on and it is reported that of the 1,462 torrents which France had in 1893, 163 are entirely controlled, and about 650 have begun to be "cured." It is also said that among the 163 that are controlled are 31 which fifty years ago were considered by engineers as incurable.

As has been brought out under Forest Influence in my last article the greatest loss of rain water in mountains is through surface run-off and a forest has a most important influence in reducing this. If the amount of run-off is reduced, it follows that the velocity of the moving water is checked and the erosive force of the run-off itself is minimized. In other words a series of obstacles is always present on a forested slope to oppose the movement of water and reduce its velocity and force and consequently its erosive force. It may be mentioned that it is on account of the recognition of this fact for centuries, that European nations have always paid special attention to the creation of the so-called "Protection Forests" (See Fernow's Economics of Forestry, chapter III) on all watersheds.

In conclusion, I wish to reiterate that floods in China are not unexpected calamities and the mere fact that they have occurred with increased intensity and frequency is enough to show that they are the results of a long-continued process of deterioration of the different rivers in China Any one who has travelled at all in the interior cannot help correlating such unfortunate flood conditions as exist in China to-day to the millions and millions of acres of denuded mountain lands which ought to be planted with trees not only for the purpose of supplying timber and fuel but also for the conservation of our unrestrained run-off and consequently for the regulation of streamflow.

The object of writing on "The Relation of Forests to Floods" and of making this brief reply to our engineering correspondent is, as I have said, not to minimize in any way the importance of engineering works as a remedial measure for the control of floods. As a matter of fact, the deterioration of all the rivers in China to-day has reached such a stage that engineering works are absolutely indispensable in order to give temporary relief to the constantly inundated districts in the different provinces. But it must be remembered, however, that engineering works cannot have a *permanent* effect unless they are supplemented by a system of tree-planting on the different watersheds. Our engineering correspondent should read what one of the foremost American Conservationists, President van Hise, of the University of Wisconsin, has to say along this line in his last book, "The Conservation of Natural Resources in U. S. A.," part of which was quoted in my last article.

# Reforestation as a Universal Remedy Against Floods Misleading

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By Sig Eliassen, B.Sc.

The writer has read with much interest the articles on this subject by Professor D. Y. Lin, of Nanking University Forestry Department, and by the "Engineering Correspondent" in your January issue. The opinions are as we see divided. And no wonder. Up to the present so little concrete information exists on this subject that it is impossible to draw any conclusions. The data that Professor Lin produces in support of his conclusions really proves nothing. To advocate reforestation as a universal remedy against floods is very misleading, and it is also contrary to hydrological principles, which will be explained later. Each stream, river, or system of rivers, is a problem in itself, and long and careful investigation is needed before any safe and definite method of handling its course and water masses can be decided upon. Of course, as pointed out by the "Engineering Correspondent," it is safe in one way to recommend reforestationing· it is well spent money in order to increase the material wealth of a country lacking in forests; but we are here dealing with the effect of forests on floods and the two things should be held separate. First on those watersheds where after a thorough investigation it is reasonable to believe that reforestation will do some good to help check frequent floods will the two interests coincide.

The current idea and the one held by Professor Lin is that forests and forests' soil act in the nature of a sponge readily absorbing and using great quantities of rainwater, the absorption being done by the forest floor and the consumption by the trees, viz., as interception and transpiration. Experiments made on two small neighboring watersheds in the United States, one burnt over and the other left wooded showed that in some cases the forest had effect in checking floods, in others it made no difference and in others again that the forest had a decided detrimental influence on the flow causing a terrific flood where the burnt over watershed only gave an ordinary flow, all being the result of coinciding meteorological and hydrological phenomena.

In so far as the forest's roots bind together the soil and form obstruction to the flow of the water over the ground they unquestionably assist in minimizing the amount of soil carried away during ordinary flood producing rains. Where the watershed has steep slopes and scanty soil cover as is the case with the upper regions of many of the watersheds in China the forests are powerless in stopping the eroding effect of the terrific onslaught of the water masses pouring down the valley sides during torrential rains. Some hundreds of years ago when China could boast of extensive forests, were the Yangtze Kiang, the Huang Ho, the West River and the Hai Ho clear rivers? Most likely not. For how have the alluvial plains of China been built up? They have been built up during a period when the mountain slopes in the interior were covered from the top (or below the snow region) down to the river's edge with trees. Besides, judging from ancient literature the flood and silt problem seem to have been as acute 2,000 years, B.C., as they are to-day.

I mentioned previously that to advocate reforestation as a universal remedy against floods was contrary to hydrological principles. Hydrology is a new science. It is made up of nearly every other science in existence, but chiefly of physics, botanics, hydraulics, geology and meteorology. It is an understanding of the fundamental principles of this science which will enable one to understand more clearly why it is so very difficult to predict the effect a forest will have on the flow of a river.

We shall begin with the water cycle: evaporation, condensation and precipitation. We know that exactly the same amount of water that falls on the earth's surface, say during some years, is again in due course evaporated, condensed and reprecipitated. This cycle continues uninterrupted and no change takes place either way. If there did, some of the water vapour must either have escaped from the atmosphere out into space or some must in a mysterious way have been added. Such despondent views as the noted astronomer Flamarion takes in his book on "The End of the World" is by no means justified, and interesting only as an arm-chair novel. We know now that the amount of water vapour in the atmosphere only varies by a few m.m. from year to year; but that the sum total variation remains zero. Some maintain there is a progressive change one way or another. So far it has not been proven.

Since there is no change in the amount of water vapour in the atmosphere, there can be no change in the amount of water on the earth's surface. Therefore, those changes on land areas which tend to increase evaporation must increase precipitation and those changes which tend to reduce evaporation must also reduce precipitation. As long as we have runoff precipitation upon land areas must exceed evaporation plus transpiration from the same land areas. Precipitation upon water areas* on the other hand must be less than evaporation from the water areas†. The only logical conclusion, therefore, and one which I quote from Prof. A. Meyer's book on "Hydrology" is that:

> "Runoff from land areas represents the excess of evaporation from the water areas over precipitation upon those areas"

or in other words:

> "Only that portion of the rainfall which finds its way into the ocean directly or through streams represents water which originally was evaporated from the ocean. The remainder of the rainfall represents water which had been evaporated from the land area, condensed over the land area and reprecipitated upon the land area."

In order better to grasp these fundamental principles in hydrology which well ought to be termed "axioms." I shall summarize them.

(1) Evaporation, condensation and precipitation is an endless, non-varying cycle.

(2) Evaporation from the ocean is, on account of the uniform and equal changes, constant from one year to another.

(3) Evaporation from the ocean equals precipitation upon-runoff into the ocean. The sum of the last two then also becomes a constant.

(4) The evaporation from the land areas is a slightly varying quantity from one year to another on account of changes in conditions such as amount of crops, temperature, wind, sunshine, etc., but the resulting rainfall due to these changes vary proportionally.

Though in reality only one cycle there are two independent systems, namely, the ocean evaporation, condensation, precipitation and runoff system, and the land evaporation, condensation and precipitation system. The two systems are naturally much interwoven; but nevertheless they are there. If changes take place on the land area which affect the evaporation, it will affect the land e.p.c. system only and, therefore, cannot minimize or otherwise affect the runoff which belongs to the ocean system. Now we are getting nearer the effect of forests on stream flow as far as consumption of water is concerned through interception and evaporation from leaves and branches and through transpiration. When we reforest an area we are thereby causing changes to take place in evaporation from that area. Is it reasonable to believe that the stream flow will be correspondingly affected. In the long run unquestionably not

The non-technical reader will probably be interested in applying this theory to a practical case. We are here not interested in local showers. They are usually evaporated or used up by the vegetation in a short time, but we are mostly concerned with the far-reaching atmospheric disturbances known as cyclonic storm movements.

Let us consider a watershed which formerly was barren, but at present grown over with trees of fair size. Transpiration which formerly was a negligible quantity is now perhaps 6-8 inches per season if not more and the evaporation is also increased due to several factors which are:

(*a*) Interception of rainfall by leaves and branches

(*b*) The moisture in the forest floor is retained longer due to the shading of the trees, thus increasing the evaporation opportunity. On the other hand the evaporation opportunity is decreased due to the fact that the water is obstructed in its flow over the ground and aiding percolation.

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* † Ocean.

On the whole it may be said that the return of moisture to the atmosphere has increased considerably. The immediate effect of this would be to decrease the runoff. But what becomes of the increased amount of water vapour which returns?

Any one familiar with meteorological phenomena knows that a cyclonic " Low " is usually followed by an anti-cyclonic "High" which again is followed by a secondary cyclonic "Low." Experiments show that 50 per cent. of the evaporation takes place during the first three days after heavy rains and will thus take place during the passing of the "High" over the watershed we are discussing. The increased amount of water which returns to the atmosphere is both connected and drawn upwards by the ascending air currents which characterizes a " High " and is blown by the anti-currents existing above the "High" back into the "Lows," condensed and reprecipitated. A few things may now happen.

(*a*) Most or all of the water vapour will be blown back into the following "Low" and, swelling the bulk of the already existing cloud-masses laden with moisture evaporated from the ocean, will, together with this, be precipitated most likely on the very same area it came from causing a heavy runoff.

(*b*) Some of the extra water vapour may be drawn into the preceding "Low" and some into the following "Low." In this case we have a distribution of rain over several watersheds and the desired effect of a neutralized flood flow is produced.

(*c*) Most or all of the water vapour is drawn into the preceding "Low" swelling the moisture in this system and it will be precipitated on some other watershed causing destructive floods there.

(*d*) It may also be precipitated on the ocean in which case it makes up for the reduced runoff directly and the desired effect is produced.

There are only few regions in the world where case (*d*) is likely to happen with any frequency. One is the east coast of the United States and Canada owing to the paths of prevailing storms. In China, on the other hand, most of the districts suffering from floods lie in regions where these cyclonic storms just enter after having soaked up moisture from the ocean. A typhoon, for instance, that strikes shore south of Shanghai and has a N.W.-ly to N.-ly direction usually sweeps right over those areas so noted for floods in Anhui, Honan, Shantung and Chihli, finding its way out to sea again over Korea.

There is yet a phase of the flood question which I have never seen discussed by anyone and one which also pertains to the return of moisture to the atmosphere by means of evaporation. That is the effect of evaporation from extensively flooded land areas on neighboring areas. This applies in particular to the northern part of China.

The evaporation from shallow lakes is about 7-8 inches for one month at a temperature of 80°F. with a relative humidity of about 70 per cent. Compare this with 10-2 inches from forests for one growing season!

When extensive regions in the Central China are flooded, the Shasi plains, and the middle Yangtze Valley plains below Hankow then we have here tremendous water areas from which a heavy evaporation takes place. All this water belongs to the ocean and it finally gets there in two ways:

(1) Part of it slowly drains into the main runoff channels.

(2) Part of it is evaporated and reprecipitated on some other watersheds most likely up North causing heavy and destructive floods there.

The writer has not had occasion to compare flood records; but the month of August, 1917 saw a record breaking flood at the Yangtze Kiang on the Shasi plains and the areas were flooded to well in September, 24th-26th of September Tientsin had its terrible flood which inundated the concessions. Is it a mere coincidence?

In view of these considerations is it then humanly possible to control floods? And if it is what are the remedies? One general remedy which is underlying all engineering efforts in minimizing flood destructions is to lead the flood water with as little delay as possible back to the ocean. It belongs there. Professor van Hise when he says that the only remedies against floods are forests and reservoirs is undoubtedly on the wrong track. Water stored in any quantity may be a scource both of utility and danger. Dangerous when the water area becomes so extensive that it affects the cycle of evaporation, condensation and precipitation. The reservoirs to check flood water must also be of such enormous size as to be prohibitive for economical reasons. To quote from van Ornum's book on " The Regulation of Rivers ":--

> "A billion cubic feet of stored water will supply a city of one or two hundred thousand inhabitants for a year; or it will irrigate from 4,000 to 10,000 acres of arid land for a season; or it will furnish more than a million horse power hours under a head of 40 feet. But it would only double the low water flow of the Mississippi River at St. Louis for less than eight hours and is exceeded by the flood discharge at the same place in one-quarter of an hour."

A billion cubic feet represents a lake of four square miles and about 10 feet deep. I leave to the reader to figure out the capacity of a reservoir capable of holding half of a 48 hours flood of the above-mentioned volume. It is easy enough to advocate this and that; but taking all factors into consideration it is a problem that engineers only are qualified to tackle with any reasonable hope of success.

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# Value of the Haikwan Tael (1918)

Mr. H. H. Fox, Commercial Counsellor to the British Legation, has kindly drawn our attention to a discrepancy in the table we published in the " Ports of the Orient " Number (February) showing the value of the Haikwan (Customs) Tael in Foreign currency. In that table the average sight exchange on London should have been $5/3\frac{1}{16}$ instead of $5/6\frac{1}{2}$.

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The announcement from Peking that an Army Reduction Commission has been formed, coupled with the statement by the Premier to the correspondent of the " North-China Daily News " that disbandment might be carried out by a joint commission of Chinese and foreigners, would seem to indicate that serious attention is being given to the reduction of the military forces. The Premier stated that the men recruited since the outbreak of hostilities between the North and South would first be dealt with, and his words will be received with gratification, at all events in southern quarters, if they are to be taken to mean that the northern forces will be reduced. Coming as the declaration does at a time when the delegates have assembled in Shanghai to discuss peace, and when the European Peace Conference has shown clearly that militarism is not wanted in this new world, there is every prospect of something being done. If the military leaders will meet the Premier's desires with but half his earnestness then we ought to see China ending one of her greatest troubles within a very short period—and we ought to see some extensive road work being carried out by some lusty coolies. Mr. Liang Chi-chao in interviews in London at the present moment is deploring that fifty per cent. of China's revenue is spent on the military, and he ought to know since he was Minister of Finance quite recently.

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We have so often called attention to the great shortage of rolling stock on the Chinese lines that it is interesting to see that the Foreign Legations at Peking have at last begun to move. They recently presented an identic note to the Chinese Government based on a report from the Senior Consul-General at Hankow in which a number of cases were cited showing that serious injury to foreign trade had resulted through continued shortage of rolling stock. The Foreign Ministers blamed the use of the railways by the militarists for the shortage, and pointed out that an additional factor was the granting of the control of a majority of cars to a single company.

# China's Salt Revenue

## *Five Years of Progress and Reform*

The Salt Revenue Department of the Chinese Government, as at present constituted, is not yet six years old. On the 26th April 1913 the Chinese Government obtained from the banking groups representing Great Britain, France, Russia, Germany and Japan a loan of £25,000,000. The Reorganization Loan Agreement, which was signed on that day, came into operation on the 21st of May. By article V the Chinese Government undertook "to take immediate steps for the reorganization, with the assistance of foreigners, of the system of collection of the salt revenue of China." Very little was known regarding the extremely complicated system of taxation of salt in China, grave doubts were expressed as to the possibility of effective reorganization, and it was in any case considered advisable to provide additional guarantees for the service of the loan. Accordingly, the payment of interest on the loan was charged upon the provincial revenues of Chihli, Shantung, Honan and Kiangsu, and it was further provided that if the principle or interest of the loan should be in default ,the Salt Administration should, after a reasonable period of grace, be incorporated with the Maritime Customs.

There was certainly need of reform, and the difficulty was to know where to begin. Taxation of salt in China is of very ancient date* and at the time when the reorganization was undertaken the system had become so complicated that the officials themselves had no very clear idea as to its ramifications. Under the Ching dynasty the administration, for all practical purposes, has been carried on by the provincial authorities, who remitted to Peking the revenue collected, after deducting the expenses of collection. In these circumstances additional taxes had been imposed without the approval or even the knowledge of the Peking Government, and had been collected indiscriminately from producers, merchants and consumers, at Checking Offices and Likin Stations, and on provincial boundaries. The number of taxes was legion, they were calculated to five or more places of decimals, in varying currencies, on quantities of salt which varied with the scale used. The net revenue remitted to Peking, it is believed, never exceeded in a single year the sum of Tls. 13,000,000, or approximately $20,000,000. An attempt at reform had been made in 1910, when the plan had been formed of placing the salt revenues of the whole country under the direct control of the Imperial Government in Peking. But the revolution of 1911 upset not only that scheme, but also the existing systems of administration in the provinces, and the conditions of affairs that ensued was such as to convince the Chinese Government of the necessity of calling in foreigners to assist in the reform of the administration, if the salt revenue was to be worth anything as a security for a foreign loan. Thus it came about that the Board of Finance, under instructions from the President in January 1913, established a Chief Inspectorate of Salt Revenues in Peking and District Inspectorates in the various administrative areas. There were to be a foreign co-Director and foreign Assistant Inspectors, who were to assist in the supervision of the collection of revenue and compilation of accounts. They were to be subordinate, however, to the Chief Commissioner of the Salt Administration, and it was expressly stated that "all executive administration concerning the production, manufacture, transportation and sale of salt in the different provinces does not come within the scope of the Chief and District Inspectorates' authority." In April of the same year two foreign Assistant Inspectors were appointed, and Sir Richard Dane was appointed Adviser in the Salt Revenue Department.

The existence of these arrangements, side by the side with the provisions of the Loan Agreement, brought about a very complicated situation, and for a time very little progress could be made with the work of reform. But as soon as the provisions of the Loan Agreement were fully recognized by the Chinese officials of the time as binding upon themselves and their successors progress was rapid and the system of dual control, which at the time appeared to give small promise of successful results, has since proved a conspicuous example of harmonious co-operation. This peculiar system can best be described in another extract from Article V of the Loan Agreement. "The Chinese Government will establish a Central Salt Administration (Yen Wu Shu) at Peking, under the control of the Minister of Finance. This Central Salt Administration will comprise a Chief Inspectorate of Salt Revenues under a Chinese Chief Inspector and a Foreign Associate Chief Inspector, who will constitute the chief authority for the superintendence of the issue of licences and the compilation of reports and returns of revenue. In each salt-producing district there will be a branch office of the Chief Inspectorate, under one Chinese and one Foreign District Inspector, who shall be jointly responsible for the collection and deposit of the salt revenues. The engagement and dismissal of these Chinese and foreign District Inspectors and of the necessary Chinese and foreign staff at the Chief and Branch Inspectorates will be decided jointly by the Chinese and foreign Chief Inspectors, with the approval of the Minister of Finance. It will be the duty of the District Inspectors jointly to superintend the issue of licences and to collect all fees and salt dues; and to report all receipts and disbursements in full detail to the local Salt Commissioner and to the Chief Inspectorate in Peking, which will publish periodical reports of the same after submission to the Minister of Finance. Release of salt against payment of dues in any District will be made only under joint signature of the Chinese and foreign District Inspectors, the revenues so collected to be lodged by them in a "Chinese Government Salt Revenue Account" with the Banks or with depositories approved by the Banks and reported to the Chief Inspectorate for comparison with their returns. This Salt Revenue Account shall be drawn upon only under the joint signatures of the Chief Inspectors, whose duty it will be to protect the priority of the several obligations secured upon the sale revenues."

The dual nature of the Government control consists in the existence side by side not merely of Chinese and foreign Inspectorate officials of equal rank and equal authority, as stated in the Loan Agreement, but of Inspectorate officials and of the administrative officials of the Yen Wu Shu. The Yen Wu Shu controls the Chinese Salt Commissioners, one of whom in each producing district regulates the manufacture and transportation of salt and controls the Salt Police employed for the prevention of smuggling. In non-producing districts the Administration officials are designated Transportation Officers and are charged with the supply and distribution of salt to the public, either direct or through merchants. At first sight it is not easy to perceive how in this complicated system, in which the actual administration is undertaken by Chinese officials unprovided with foreign colleagues, the foreign assistance in the work of reform can be more than merely nominal. The Chinese Chief Inspector, however, is also Chief Commissioner of the Yen Wu Shu, and the foreign Chief Inspector is also Adviser to the Yen Wu Shu. The District Inspectors, Chinese and foreign, though primarily revenue officials, have the right to inspect and report on the working of the Administration. On the basis of their reports and as the result of his own inspections the Foreign Adviser is enabled to make recommendations for reforms in the administration, which in turn result in increased collections of revenue.

The distribution of the various offices held by foreigners among the different nationalities varies somewhat from time to time and is not the subject of a formal agreement, but the nationals of those Powers which participated in the loan naturally have a prior claim. The German members of the Department were dismissed by the Government on the entry of China into the war. Including Sir Reginald Gamble, who succeeds Sir Richard Dane as Associate Chief Inspector and Adviser to the Yen Wu

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* See FAR EASTERN REVIEW, December, 1912: Description of the Administration of the Salt Tax and Administration of the Salt Industry (illustrated).

Shu, a staff of six in the Chief Inspectorate in Peking, and three members temporarily detached from the service of the Chinese Government, there are now 47 foreigners employed in the Department. Including secretaries, collectors, clerks, weighment officers, weighmen, tallymen and others, several thousand persons are directly employed by the Department, the number varies at different seasons of the year, but is steadily on the increase.

| *Producing district.* | *Consuming district.* | *Kind of salt.* | *Method of manufacture.* |
|---|---|---|---|
| Fengtien | Fengtien, Kirin and Heilungkiang | Sea | Solar evaporation |
| Chihli | Chihli, East Honan, North Shansi | ,, | ,, |
| Shantung | Shantung, North-East Honan, North-East Anhui | ,, | .. |
| Kiangsu | Anhui, parts of Kiangsu, Kiangsi, Honan, Hupeh and Honan | ,, | .. also by boiling |
| Chekiang | Chekiang, and some districts of Kiangsu, Kiangsi and Anhui | ,, | ,, .. |
| Fukien | Fukien and some districts of Chekiang and Kiangsi | ,, | .. ,, |
| Kwangtung | Kwangtung, Kwangsi, and some districts of Kiangsi, Hunan and Kweichow | ,, | ,, .. |
| Yunnan | Yunnan, West Kweichow | Well | Boiling |
| Szechuan | Szechuan, North-East Yunnan, Kweichow, Hupeh and South Shensi | ,, | ,, |
| Shansi | Certain districts of Shansi, Shensi and Honan | Lake | Solar evaporation |
| Shensi and Kansu | Kansu and some districts of Shensi | ,, | ,, |
| Mongolia | Certain districts of Chihli, Shansi, Shensi and Kansu | ,, | ,, |

Most Chinese salt is crude and sometimes contains a large admixture of dirt, for the methods of manufacture, although in many cases highly ingenious and effective, are still primitive. Refined salt is manufactured in China to a very small extent, and the importation of bottled salt for the use of foreigners in Treaty Ports, although sanctioned by long-standing custom, is not covered by special Treaty provisions. For a long time to come there can be no large market for refined salt. In some parts of the country a pound of crude Chinese salt, under present conditions, costs the best part of a labourer's day's wages.

The Government does not own the salt works or the salt manufactured in them. The salt after manufacture is stored at the works or at depots near the works and is there purchased from the manufacturers for transportation to the district of consumption, which may be at a very great distance. The principle is gradually becoming accepted that it is the duty of a good Salt Administration to secure for the people a constant supply of good and cheap salt, that the supply of good and cheap licit salt is the best method of increasing the revenue and reducing smuggling, and that this object is best attained by opening the salt trade to free competition and abolishing any unnecessary restrictions. For this reason the system of transportation and sale of salt by the Government or by merchants who have been granted the sole right to sell duty-paid salt in a certain area or by merchants to whom an area has been farmed out in return for a fixed annual payment will, it is hoped, ultimately give way to a system of free trade. In a large part of Fukien it has been decided that partial free trade is to be introduced. In Kwangtung, where large areas were formerly farmed out, a similar system is gradually supplanting the monopolies and the same may be said of Szechuan and the greater part of Anhui and Honan. Fengtien and Yunnan enjoy free trade to a considerable extent, but the supply of Fengtien salt to Kirin and Heilungkiang is a Government monopoly. The province of Chihli and the four Yangtze provinces of Hunan, Hupeh, Kiangsi and (South) Anhui, are almost exclusively supplied with salt purchased from the manufacturers by merchants possessing monopoly rights which, having been in most cases originally purchased from the Government, are now treated as hereditary and transferable. In the Yangtze provinces above mentioned, the salt, most of which comes from the coastal areas North and South of the Huai river, is sold with the assistance of Government Officers on behalf of the merchants.

The present standard of taxation, which was fixed by Presidential Mandate in March 1918 is $3 per picul. This rate of duty was to be gradually introduced throughout China, except in Mongolia, Chinghai, Sinkiang and Tibet, "where extraordinary conditions prevail." Up to the present it has not been found possible, for various reasons, to carry out this order in all districts. The principle has been generally admitted, however, of collecting a single direct tax, calculated on the Ssu-ma picul of 140-lbs. avoirdupois, at the source. That is to say, before salt can be removed from the works or depots, duty should be paid in full and a Release Permit obtained from the District Inspectors and a Transportation Pass from the Salt Commissioner. These two documents establish the status of the salt as licit *en route* to, and on arrival in, the authorized district of consumption are intended to protect it both from further exactions in the form of likin or other dues and from confiscation by the preventive authorities. The chief exception to this rule of "issue only upon payment of duty in full" occurs in the case of salt destined for the Yangtze provinces. The tax is nominally $4.50 per picul, but the long journey to the interior by way of the Yangtze involves serious risk of loss and payment of $3 out of the $4.50 is deferred until the salt has been sold and when paid is often in depreciated notes. On salt shown to have been lost by misadventure exemption from payment of deferred duty is granted, at the discretion of the Chief Inspectors. Apart from this special area the most heavily taxed district is that of Yunnan, where the tax is $3.50 per picul. The lowest is 20 cents per picul in certain parts of Shantung. In certain districts the people are unaccustomed to control and the introduction of any system of direct taxation is fraught with exceptional difficulty. Smuggling still prevails, to a very considerable extent, practically throughout the country. The reforms which are being introduced, however, are calculated to make smuggling a less profitable occupation, while the gradual reorganization and redistribution of the very large force of Salt Police employed by the Government may be expected in the near future to show good results.

The revenue is collected by the District Inspectors or is paid direct into the Collecting Bank, which is generally the local branch of the Bank of China. By the Collecting Bank it is remitted to the Receiving Bank for distribution among the Group Banks, by which it is held either for payment of the various obligations secured upon it or for release from time to time to the Minister of Finance for the general purposes of the Chinese Government, as determined by the Chief Inspectors in the exercise of their discretion.

The following table shows the amounts credited to the Salt Revenue Account with the Group Banks year by year, after payment of the expenses of administration, and the amounts released to the Chinese Government after all current obligations have been met:—

| | Credited in Banks<br>$ | Released to Government<br>$ |
|---|---|---|
| 1913 ... ... ... | 11,471,242.76 | — |
| 1914 ... ... ... | 60,409,675.75 | 31,304,818.22 |
| 1915 ... ... .. | 69,277,536.42 | 27,523,066.47 |
| 1916 ... ... ... | 72,440,559.89 | 52,226,185.48 |
| 1917 ... ... ... | 70,627,249.62 | 68,613,370.22 |

Of the amounts mentioned as having been released to the Government in 1916 and 1917 large sums were expended locally, under the authority of the Chinese Government, in the Provinces of Yunnan, Kweichow, Szechuan and Hunan. Sums aggregating more than four million dollars were appropriated in those years without authority by revolutionary leaders, and these sums, though collected on behalf of the Central Salt Administration, did not reach the Chinese Government. The effect of political troubles is clearly shown in the reduced receipts for 1917, and it is remarkable that the reduction was not even more serious. Both in 1917 and in 1918 civil war and the resulting prevalence of brigandage have naturally retarded the reorganization on which some years of unremitting effort had been expended. Much remains to be done before that ideal condition can be reached under which, on the one hand, an adequate supply of licit salt of good quality is assured to the public throughout the country, at prices which even the very poor can pay, and, on the other, the revenue amounts to the sum which, with a fair adjustment of the burden of taxation, the Government has the right to expect. The results that have been achieved in the past five years, however, in circumstances of exceptional difficulty, may be considered as very satisfactory and given peace in the country, the future is full of promise.

# ENGINEERING, FINANCIAL, AND INDUSTRIAL NEWS

## RAILWAYS

**Nanchang-Kiukiang Railway.**—It is reported that the Chinese owners of the Nanchang-Kiukiang Railway have secured a loan of one million dollars from Japanese sources to discharge their debts towards Japanese creditors.

**Locomotives for S.M.R.**—Seventeen locomotives of the "Mikado" type, manufactured in the United States, have been delivered at Dairen for the use of the South Manchuria Railway. As the locomotives are too heavy for rails of less than the 80-lb. size, they may not be serviceable north of Wafangtien for the present.

**C. E. Ry. Resumes Express Service.**—The Chinese Eastern Railway has resumed express train service twice a week between Manchouli and Vladivostock, with connections for Omsk.

**Shimonoseki-Moji Tunnel.**—A bill now before the Japanese Diet contemplates the construction of a 7-mile railway tunnel, of which one mile will be undersea, between Shimonoseki and Moji. Work would commence this year and be completed in 1929, at an estimated expenditure of 19 million yen.

**S.M.R. Budget.**—The 1919 budget of the South Manchuria Railway Company includes an amount of 35 million yen for new undertakings to provide for increased traffic on its lines. Of this amount 23 million yen will be set apart for rolling stock while the balance will be used on maintenance and improvement of way.

**Proposed Elevated System for Tokyo.**—A proposition to build elevated electric railway lines in Tokyo has been advanced by a Japanese syndicate. The application provides that a capital of 60 million yen will be necessary for the construction of four main lines on the third-rail system, and that the cost will be about three million yen per mile.

## MINING

**Platinum in the Urals.**—Some time previous to the war 90 per cent. of the world's output of platinum was produced in Russia, the later falling off, which was very marked even before the war, being due to the exhaustion of the best-known areas in the Urals. In 1911 the Russian production was 300,000 troy ounces. In 1912 it had diminished to 185,381 ounces; in 1913, to 173,642 ounces, and in 1914 to 156,775 ounces. In 1915 the Russian output fell to 107,774 ounces, and in 1916 to 78,674 ounces, but no doubt the decline since 1914 has been as much due to the dislocation caused by the war as to the exhaustion of the deposits. However, due attention must be paid to the fact that Mr. de Hautpick, an authority of the Russian Imperial Government, some years back predicted the exhaustion of the Urals within a period of 30 or 40 years, and it is a fact that gravels which were left as unpayable in former years have now been treated, the increase in the price of the metal having made the treatment of these gravels profitable.

**Anthracite Deposit Discovered in Korea.**—A Korean newspaper reports that a rich deposit of anthracite coal has been discovered in Chilkak district, North Kyougsang province, and that official permission has been given for working it.

**Liquidation of Chinghsing Mines.**—The Chinese Government is liquidating the affairs of the German Chinghsing mines, Chihli Province. The collieries were opened in 1908, and have a capacity of 1,000 tons per day.

**Han-Yeh-Ping Dividends.**—At a general meeting of the Han-Yeh-Ping Coal and Iron Co. in December a dividend of $5.40 on extra special shares, $5.20 on special shares and $5.00 on ordinary shares was declared from the year's profits of about Tls. 3,486,000, leaving a balance of Tls. 1,989,000.

**Fushun Collieries 1918 Output.**—The 1918 output of the Fushun Collieries, Manchuria, is put at 2,433,900 tons against an estimated output of 2,720,000 tons.

**Fushun Foundry's First Dividend.**—At a meeting of subscribers of the Fushun Foundry it was announced that from the opening of business on June 3rd to November 30th orders valued at Y.500,000 were received and work to the value of Y.220,000 was executed, resulting in a net profit of Y.22,000, enabling the payment of a 10 per cent. dividend.

**Asano Cement Dividend.**—The Asano Cement Company has declared a dividend of 25 per cent. on its workings in the last term, which accounts for Y.1,141,875 of a total credit balance of Y.1,519,998.

**Dutch Indian Oil Company Dividend.**—The Royal Dutch Oil Company, which operates oil wells in Sumatra, Borneo, Java and Ceram, has declared a dividend of 48 per cent. on its operations in 1918. Six of the 31 oil concessions in the Dutch East Indian Archipelago on which the company awaited a decision on December 31, 1917, were granted in 1918.

**Japan Petroleum Co.**—At a meeting of the Japan Petroleum Co. a dividend of 20 per cent., accounting for Y.2,500,000, and a special dividend of 5 per cent., accounting for Y.625,000, was paid on the 1917 workings, while Y.1,458,938 was put into reserve and Y.2,310,532 was carried forward to the next term.

## INDUSTRIES

**Laou Kung Mow Cotton Mill.**—The credit balance for 1918 workings at Shanghai was Tls. 113,292.84, of which a dividend of 7 per cent. accounts for Tls. 56,000.

**Electric Plant for Pootung.**—Shanghai Chinese have organized a company for supplying electric light and power in Pootung, the suburb on the opposite shore of the Whangpoo.

**Hongkong and Kowloon Wharf and Godown Co.**—The profit on 1918 working was $969,048.24 as compared with $873,144.63 in 1917. The net profit, after deducting directors' and auditors' fees, contributing $5,000 to charities, and paying for repairs, is $880,985.76. Adding the amount brought forward from last year, there is a total of $1,156,148.96 available for appropriation. Of this total a dividend of $6 per share will account for $360,000 and a bonus of $4 per share will account for $240,000; $400,000 will be transferred to reserve fund and $40,523.96 will be carried forward; while the remainder will be used in writing off properties.

**Mitsui Spinning Mill Begins Operation.**—Twenty-thousand of the 50,000 spindles of the Mitsui Bussan Kaisha No. 3 Mill at Shanghai were put in operation on January 6th.

**Yangtzepoo Cotton Mill.**—The Yangtzepoo Cotton Mill, of Shanghai, has declared a dividend of 7 per cent. on 5,000 preference shares, accounting for Tls. 35,000, and a dividend of Tls. 0.80 per share on 200,000 ordinary shares, accounting for Tls. 160,000, from a gross credit balance of Tls. 403,494.82 on its workings in 1918.

**Kung Yik Cotton Mill.**—The Kung Yik Cotton Spinning and Weaving Co., Shanghai, has declared a dividend of Tls. 1.60 per share on the workings of the last term, which makes a total of Tls. 11.40 per share over the last 8 years' working, or an average of 14.25 per cent. per annum.

**Proposed Spinning Mill for Shanghai.**—The Pootung Cotton Spinning Mill, a concern under promotion at Shanghai, proposes to begin operation with a capital of $1,000,000 in $10 shares, of which $5 will be paid upon application and the balance on the date on which operation is begun.

**Kanegafuchi Spinning Mill Dividend.**—The Kanegafuchi Cotton Spinning Company (Japan) proposes the payment of a 70 per cent. dividend on their workings in the last term, from a net profit of Y.9,739,960 plus a balance from the previous term of 3,816,230, or a total of Y.13,556,191. The dividend would account for Y.5,525,439, Y.4,380,752 would be carried over, and the balance would be disposed of by reserves, bonuses, etc.

**Ewo Cotton Mill Dividend.**—The Ewo Cotton Spinning and Weaving Co., of Shanghai, have declared a dividend of Tls. 17 per share on their earnings of Tls. 564,410.74 made in the past year. The shares have paid Tls. 107 in all in the past 8 years—an average of 26.75 per cent. Commenting upon the working costs in the past term, the chairman remarked that two items alone—coal, costing Tls. 131,000 more than in 1917, and interest, costing Tls. 23,217 more than in 1917—represent more than Tls. 10 per share.

**Osaka Iron Works.**—The Osaka Iron Works has declared a dividend of 35 per cent. per annum for the last term.

**Button Factories at Irkutsk.**—Two button factories have been founded at Irkutsk where not only horn, but also clippings of thin sole leather, are used as materials.

**Paper Mill Factory in Barnaul.**—It is reported that a paper mill on a joint stock basis is to be established in Barnaul, in the Altai district. Siberia. which town was destroyed by fire two years ago and is now in course of reconstruction. A woollen manufactory, equipped with 100 looms, is also said to be in project. as well as other industries.

**Tobacco Growing in Siberia.**—Experiments by the Siberian Cossacks during recent years in cultivation of tobacco, especially in the Semipalatinsk district. are said to have given splendid results. The military authorities are inclined to aid in the cultivation of the plant.

**Siberian Soap Factory.**—The Zakoupsbyt Soap Factory at Novo Nikolaevsk, Siberia, which has increased its daily output since the beginning of January, contemplates building an extension and installing new boilers. At present this plant is manufacturing Cologne water. tooth paste, medicaments, cosmetics, ground coffee. pepper, printing ink, etc., and has under contemplation the manufacture of green soap. A laboratory which is badly required has been ordered from Japan at a cost of Yen 8,000.

**Electric Light for Kweiyang.**—It is reported that Kweiyang, the capital of Kweichow Province is making arrangements for the installation of electric light. Up to the present kerosene has been the chief illuminant.

## FINANCIAL

**Hongkong and Shanghai Bank Report.**—The Court of Directors of the Hongkong and Shanghai Banking Corporation report that the net profits for the year ending December 31, 1918, including $3,223,238.16, brought forward from last account, after paying all charges, deducting interest paid and due, and making provision for bad and doubtful account and contingencies, amount to $9,820,420.92. The Directors recommend the transfer of $1,500,000 from the Profit and Loss Account to credit of the Silver Reserve Fund, which Fund will then stand at $21,000,000. They also recommend writing off Bank Premises the sum of $750,000. After making these transfers, deducting the Interim Dividend of £2 3/- per share, paid on August 12 last, viz. £258,000 at 3/3½ equals $1,577,579.62 and Remuneration to Directors, there remains for appropriation $5,962,841.30, out of which the Directors recommend the payment of a Final Dividend of Two Pounds and Five Shillings Sterling per Share, viz. £270,000, and a Bonus of One Pound Ten Shillings Sterling per Share, viz. £180,000 amounting in all to £450,000 which at 3/1½ the rate of the day, will absorb $2,683,229.82. The Balance $3,279,611.48 to be carried to New Profit and Loss Account. A Branch Office of the Bank has been opened at Vladivostok.

**Loan on Chintehchen Potteries.**—A report from Nanchang, Kiangsi Province, is that the civil governor of Kiangsi has passed over to Japanese the controlling right in the famous Chintehchen potteries as security for a loan of two millions.

**Chinese Electric Company.**—The Chinese Electric Company, a subsidiary of the Sino-Japanese Industrial Co., has been formed to take over the telephone and other loans secured by the parent company, and also the interests of the incandescent lamp factory which is now operating in Shanghai.

**Japanese Trade With China.**—According to the Japanese Finance Department, the total volume of the 1918 trade of Japan with China was Yen 323,582,000 in exports and Yen 227,895,000 in imports, an advance over the 1917 figures of 31,990,000 and Yen 114,748,000 respectively.

**Capital Expansion in Japan.**—The Bank of Japan calculates the investment of capital in new enterprises in Japan during 1918 as Yen 1,655,240,000 and the capital expansion in existing enterprises during the same period at Yen 1,021,661,300, the total showing an increase of Yen 1,114,371,300 over 1917.

**Capital in the Philippines.**—According to a bulletin issued by the Philippines Bureau of Commerce and Industry, British capital invested in the Philippines amounts to 1,340,000,000 pesos as compared with 544,000,000 pesos invested by American capitalists, 123,000,000 by Japanese and 59,000,000 by Dutch investors. German interests, which amounted to 179,000,000 pesos, have practically all been disposed of by the alien property custodian. There are 1,386 domestic corporations organized in the islands with an authorized capital of 207,000,000,000 pesos.

**Customs Surplus Fund Released.**—The Diplomatic Body at Peking released to the Chinese Government in January a sum of over five million dollars from the Customs funds.

**New Bank for Formosa.**—A substantial bank with a capital of ten million yen is being organized at Taihoku, Formosa, with the backing of the Bank of Taiwan, by Japanese businessmen and by leading Chinese residents in the Dutch East Indies and adjacent territory. The Japanese and Chinese groups will each take up half the capital. Branches will be opened at Semarang and Singapore.

**French Bank Increases Capital.**—The Banque Industrielle de Chine has increased its capital from 45 million to 75 million francs, putting the new shares on the market in February. Old shareholders have the preference in the proportion of one new share to three old shares.

**Gold Bank for Changchun.**—A founders meeting was held on January 14 for the organization of a Chinese bank with a capital of a million gold yen, at Changchun, in Manchuria. The directorate comprises two representatives of the Bank of Communications, one representative of the Kirin Provincial Bank, and representatives of three native banking institutions.

**More Loans.**—Mr. John Jay Abbott, Vice-President of the Continental and Commercial Trust and Savings Bank of Chicago, is on a mission to Peking on behalf of a group of about 30 prominent banking houses and banks in the principal cities of the United States. American papers report that Mr. Abbott will negotiate a loan of relatively large proportions.

## SHIPPING

**The East Asiatic Steamship Co.**, of Norway, will resume sailings immediately between Norway and Japan and China.

**Osaka Shosen Kaisha's Dividend.**—The O. S. K. has decided to declare a dividend of 60 per cent. per annum on the last term. The net profit for the term was Yen 23,770,000.

**Dutch Steamship Companies Expanding.**—Secretary A. F. Bronsing of the Netherlands Royal Mail Steamship Company, Mr. H. L. Bekker, managing director of the Rotterdam Lloyd Steamship Company, and Mr. T. E. Tegelberg, managing director of the Royal Mail Steamship Company, are making a year's trip around the world studying trade conditions. Among other plans, they announced that 16-knot, 15,000-ton steamers will be built in the near future to ply between San Francisco and Batavia via Japan.

**N. Y. K. Pacific Fleet.**—Twelve big carriers will be put into the trade between Seattle and the Orient by the Nippon Yusen Kaisha. Four of these, the "Suwa," "Fushimi," "Kashima" and "Katori Maru," were formerly in the European trade as passenger liners, and are now on the Seattle-Oriental run.

**Freight Congestion at Vladivostok.**—So great is the congestion of inbound freight at Vladivostok, due to the disorganization of the transportation lines in Russia, that ships are now unloaded only with difficulty and cargoes are stored on all available space on the shore. At times the only available storage is provided by lighters which are tied up until a movement of goods on the land leaves a vacancy. Ice breakers have successfully kept open a passage through a huge icefield about the port, through which ships are enabled to pass without difficulty. The Vladivostok service of the N. Y. K. and O. S. K. lines has been suspended.

**Japanese Submarine Losses.**—The Japanese Emergency Shipping Board has fixed the claim for all Japanese losses by German submarines at Yen 137,231,573. It is reported that 28 vessels aggregating 140,745 tons were sunk during the war.

**New Pacific Freight Rates.**—The United States Shipping Board has fixed the freight rate from the Pacific Coast to Japan and China at $30 and to Manila at $25 per ton. The rates formerly prevailing were around $40-$50.

**Lungkow Icebound.**—A Japanese vessel which sought entrance to the new Shantung port of Lungkow on January 19 was held up by ice about a foot thick, extending about 2½ miles in the sea, and was forced to seek shelter elsewhere.

**Sailing vessels in Trans-Pacific Trade.**—The Pacific Steamship Company have put two sailing vessels, the "Curtis" and the "Oriental," into the Seattle-Japan trade. The two vessels were chartered from the Libby, McNeill & Libby fleet, which carries canned salmon along the North American coast and ordinarily is tied up in Lake Union in the winter. A motor ship of the same fleet is in the Seattle-Manila trade.

**Resumption of Blue Funnel Service.**—The resumption of the weekly freight service of the Blue Funnel line between Far Eastern ports and the United Kingdom is announced for the current month. It is understood that the rate will be 120 shillings a ton, or about one-tenth of the rate which has prevailed recently.

**New Japanese Line.**—The Ocean Steamship Co., with a capital of 20 million yen, is being organized by Mr. Ginjiro Katsuta and other shipowners at Kobe. Five 10,000-ton and two 5,000-ton steamers which are now under construction at the Osaka Iron Works will be put in service, over the triangular course Yokohama-Kobe-Shanghai-Hongkong-Singapore-Seattle.

**Trans-Pacific Freight Rates.** — Nominal freight quotations between Japanese and North American ports in January-February were given at $8 and $10 gold, although the rate in the opposite direction remained stiff at $30-$40.

**Chinwangtao Becomes Icebound.**—Continued low temperature resulted in the freezing over of Chinwangtao harbor on January 29th. Icebreakers in the Taku Tientsin service were despatched to the spot. Chinwangtao, which serves as a winter port for Tientsin, rarely becomes icebound.

**New Pier at Manila.**—Construction will begin immediately on a new pier for Manila harbor, to be known as Pier No. 7 and which will be just south of Pier No. 5 and near the Manila Hotel. The pier will be of two stories, with separate divisions for freight and passenger traffic.

**Freight Rates to Europe.**—The China Homeward Freight Conference has notified shippers that the tariff rates have been reduced from February 10 to the basis of the new minimum rate of 120 shillings per ton of 40 cubic feet.

**Japanese Shipping Subsidies.**—The Japanese Government has introduced in the House of Representatives a bill renewing the subsidies for 1920 and 1921, the total for each trade being as follows:—European, Yen 1,368,930 in 1920, 1,731,331 in 1921; North American, 2,651,783 in 1920, 2,794,809 in 1921; South Seas, 292,888 in 1920, 246,919 in 1921; Australian, 194,530 in 1920, 250,683 in 1921.

**C. M. Line Resumes Canton Service.**—The China Merchants' Steam Navigation Co., which withdrew its vessels from the Canton trade to prevent commandeering by Southern military leaders, has decided to resume the service under a promise of protection from the Northern government.

**Pacific Mail in Vladivostok Trade.**—The Pacific Mail Steamship Company has opened a branch at Vladivostok. The Company has hitherto had two vessels running between the United States and Vladivostok, but it is reported that it will shortly begin a regular service.

**Union Waterboat Co. Dividends.**—The Union Waterboat Company, of Hongkong, has declared a dividend of 12½ per cent. on 1918 operations, accounting for $24,257.62 of the credit balance of $51,700.70.

**Hongkong Line Dividend.**—The Hongkong, Canton and Macao Steamboat Co., Ltd., announces a credit balance of $148,693.05 on 1918 operations, including $16,462.87 brought forward, of which $80,000 will be applied to dividends at the rate of $1 per share.

**O. S. K. Joins Conference.**—The Osaka Shosen Kaisha has received advices from London to the effect that the European Shipping Conference has given approval to the proposal that the O. S. K. join the Conference.

**Japanese Harbor Works.**—Investigations are under way by the Japanese Government for the proposed improvement of Kobe and Moji harbors to take care of shipping after the war. It is reported that some 30 million yen will be used in the project.

**New Open Port in Japan.**—The Japanese Government contemplates making an open port of Kagoshima, with accommodation only for vessels not exceeding 3,000 tons.

## CONSTRUCTION.

**New Shanghai Building for H. and S. Bank.**—The Hongkong and Shanghai Bank has announced that plans are under way for the construction in Shanghai of a 5-storey building which will cover some 90,000 square feet between the Bund, Foochow Road and Szechuen Road. The lot has a frontage of 325 feet on the Bund and runs along Foochow road 225 feet to the building occupied by Caldbeck, Macgregor & Co. The building will be of the most elaborate construction. It is hoped that construction will begin in the current year.

**Kelly and Walsh Building.**—Kelly & Walsh, the well known firm of publishers and booksellers, will be installed in a new building on Nanking Road, Shanghai, during the present year. The building will be four stories in height, the upper floors being designed for offices, and will be on the North side of Nanking Road between the Bund and Szechuen Road.

**Liao Conservancy.**—It is expected that the negotiations for a loan for the Liao River conservancy will shortly be concluded. The Governments of Great Britain and Japan are interested in the negotiations. It is reported that the conservancy work on the upper Liao will be carried out by Japanese engineers while that on the lower part will be done by British engineers.

## DOCKYARDS, SHIPBUILDING, ETC.

**Dockyard for Fusan.**—A new dockyard company is under organization at Fusan (Korea). The Chosen Yusen Kaisha will be a large subscriber to the initial capital of a million yen.

**Kawasaki Dockyard.**—The Kawasaki Dockyard Co., Kobe, have declared a dividend of 10 per cent., accounting for Y.958,600, and a special dividend of 30 per cent., accounting for Y.2,875,800, on its workings in the last year. The total credit balance for the year was Y.16,590,478. About 5 million yen is accounted for by workmen's welfare funds, while about 8 million yen was disposed of in reserves, redemption funds, expansion funds, etc.; and Y.1,383,459 was carried over to the next term.

**Chinese Dockyard Launches Gunboat.**—A new gunboat, the *Hai Yen*, has been completed at the Foochow Dockyard on order of the Chinese Government.

**Japanese Launchings in 1918.**—Launchings of vessels of over 1,000 tons from Japanese yards in 1918 totalled 158 of 445,592 tons.

**Launching of Japanese Destroyer.**—A destroyer, the *Sawakaze*, the keel of which was laid in January, 1918, was launched in January of this year at the Nagasaki works of the Mitsubishi Zosen Kaisha. The vessel is 320 feet in length, with a displacement of 1,345 tons, and is capable of a speed of 39 knots. Five more of the same type will be constructed, and orders for three of them have been placed with the Mitsubishi Zosen Kaisha.

**Robert Dollar Co. Building Ships.**—The Robert Dollar Company has announced that it will build several vessels of 12,000 tons each for the Pacific trade. In addition to cargo accommodation each will carry 100 passengers.

## MISCELLANEOUS

**Bandit Chief Reappears.**—Lao Hai-yu, one of the older school of banditti who rob only the wealthy, appeared this winter in Kirin Province, Manchuria, with a band of about 40 men and captured over a hundred loaded carts and 70 horses. At Petune the bandits attempted to rob a wealthy resident but were opposed by troops, and after three days of fierce fighting withdrew in good order when they learned that reinforcements were coming up.

**Wolfram Tax Reduced.**—The price of wolfram ore at Canton, which has been so high as to prevent exportation, will be reduced by an abatement in the tax imposed by the Canton Government amounting to one-half the former figure.

**Far East Men to Return.**—The Department of Overseas Trade, London, is arranging with the military authorities for the early release from military service of soldiers whose services are urgently required for the re-establishment of British commerce abroad, and the China Association has been requested to communicate with that department regarding soldiers formerly employed in the Far East.

**Civic Progress in Canton.**—The work of demolishing the city walls of Canton is at an advanced stage, and work on the boulevards and gardens to occupy the reclaimed space will now be undertaken. The local government has appropriated funds for the building of two public gardens. A prize offered for the best design for the most important of these was won by a Chinese graduate of an American college.

**Foochow Conservancy Plan Approved.**—The Diplomatic Corps at Peking has given its recommendation to the Chinese Government for the carrying out of the scheme for improving the navigability of the Min River at Foochow, which was described in the January, 1919, issue of the FAR EASTERN REVIEW.

**Motor Transport in Manchuria.**—A Japanese Military Motor Car Corps, with three passenger cars and twenty-five loaded trucks, negotiated a successful trip between Changchun and Harbin in the dead of the winter while the mercury stood at 30 deg. below zero. The journey was made in four days.

**Long Distance Telephony in Manchuria.**—Linking of Chinese telephone lines on the Liaotung Peninsular with Japanese lines in the Kwangtung Leased Territory has made possible the transmission of telephone messages between Fuchou, Wafangtien and other towns with Dairen and Port Arthur. The connection was put in working order on January 1st.

**Chinese Wireless at Shanghai.**—The installation of a new wireless set for the Shanghai Chinese Navy Headquarters, on the top of the new building of the telegraph department, has been completed and taken over by the telegraph department.

**Olsen Co. Buys German Cigar Factory.**—Walter E. Olsen & Co., of Manila, have purchased the Helios tobacco factory, formerly owned by German interests, in Manila. The Helios is the third German cigar factory purchased by Olsen & Co., the firm having also acquired the Giraldo and El Oriente.